CX-LEM330

SERVICE MANUAL

Ver 1.0 2004.06

AEP Model
UK Model
E Model
Australian Model

CX-LEM330 is the Amplifier, CD player, Tape Deck and Tuner section in XR-EM330.

CD Section	Model Name Using Similar Mechanism	HCD-NE5
	Base Unit Name	BU-K7BD81B
	Optical Pick-up Name	KSM-213EDP/C2NP
Tape deck Section	Model Name Using Similar Mechanism	HCD-NE5
	Tape Transport Mechanism Type	CMAL5Z220A

SPECIFICATIONS

Main unit

Amplifier section

European model:
DIN power output (rated): 11 + 11 W (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 15 + 15 W (6 ohms at 1 kHz, 10% THD)
Music power output (reference): 25 + 25 W
Other models:
The following measured at AC 230 V or AC 120 V, 50/60 Hz
DIN power output (rated): 11 + 11 W (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 15 + 15 W (6 ohms at 1 kHz, 10% THD)

Inputs
MD (phono jacks): Sensitivity 450 mV, impedance 47 kilohms

Outputs
PHONES: Accepts headphones with an impedance of 8 ohms or more
SPEAKER: Accepts impedance of 6 to 16 ohms.

CD player section

Laser: Semiconductor laser (λ=780 nm) Emission duration: continuous
Frequency response: 20 Hz – 20 kHz

Tape deck section

Recording system: 4-track 2-channel, stereo
Frequency response: 50 – 13,000 Hz (±3 dB), using Sony TYPE I cassettes

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section
Tuning range: 87.5 – 108.0 MHz
Antenna: FM lead antenna
Antenna terminals: 75 ohms unbalanced
Intermediate frequency: 10.7 MHz

AM tuner section
European model: 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Other models: 530 – 1,710 kHz (with the tuning interval set at 10 kHz) 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Antenna: AM loop antenna, external antenna terminal
Intermediate frequency: 450 kHz

General

Power requirements
European model: 230 V AC, 50/60 Hz
Korean model: 220 V AC, 60 Hz
Australian model: 230 – 240 V AC, 50/60 Hz
Taiwanese model: 120 V AC, 50/60 Hz
Mexican model: 120 V AC, 60 Hz
Other models: 110 – 120 V or 220 – 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption: 50 W 0.3 W (in Power Saving Mode)

— Continued on next page —

COMPACT DISC DECK RECEIVER

9-877-822-01
2004F1678-1
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Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

Dimensions (w/h/d)	Approx. 164 × 230.5 × 266 mm incl. projecting parts and controls
Mass	Approx. 3.5 kg

Design and specifications are subject to change without notice.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. This label is located on the rear exterior.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

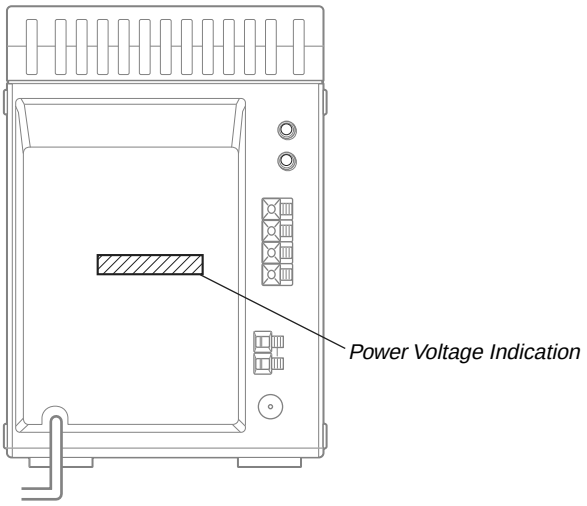
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

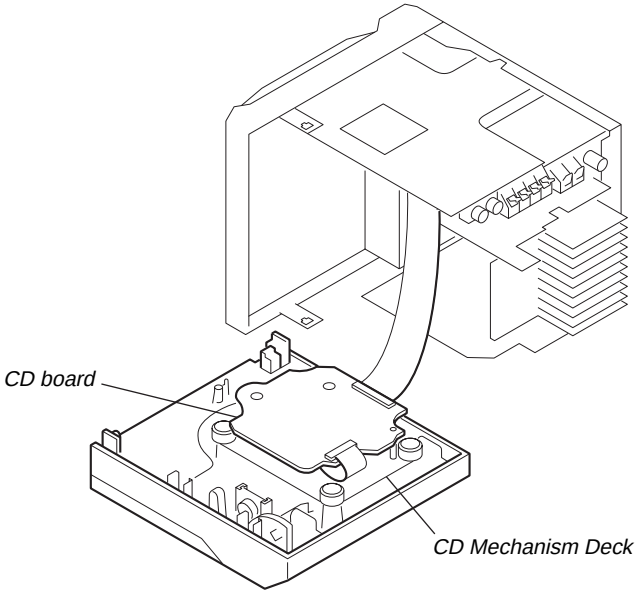
Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveforms is output three times.

MODEL IDENTIFICATION
– Back Panel –

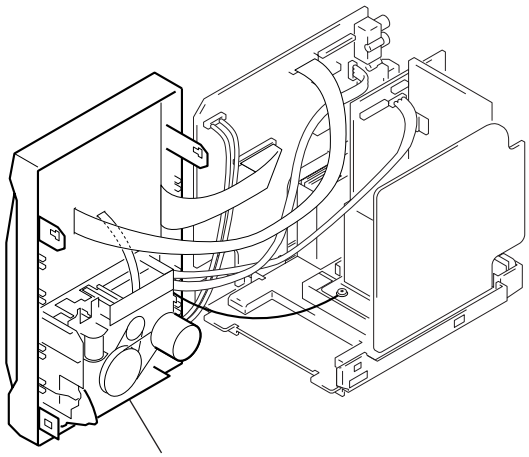


Model Name	Power Voltage Indication
Mexican model	120 V AC, 60 Hz 50W
AEP and UK models	230 V AC, 50/60 Hz 50W
Korean model	220 V AC, 50/60 Hz 50W
Australian model	230 – 240 V AC, 50/60 Hz 50W
Taiwan model	120 V AC, 50/60 Hz 50W
Other models (E, Singapore, Argentine, Chilean and peruvian models)	110 – 120 V or 220 – 240 V AC, 50/60Hz 50W

SERVICE POSITION OF THE CD MECHANISM DECK

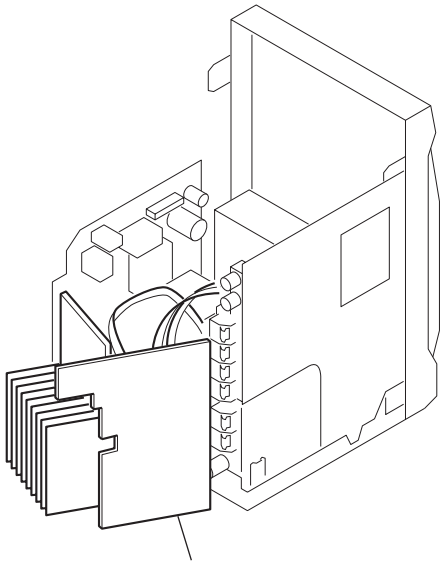


SERVICE POSITION OF THE TAPE CASSETTE MECHANICAL DECK



Tape Cassette Mechanical Deck
(CMAL5Z220A)

SERVICE POSITION OF THE AMP BOARD



AMP board

SECTION 2
GENERAL

This section is extracted from instruction manual.

List of button locations and reference pages

How to use this page

Use this page to find the location of buttons and other parts of the system that are mentioned in the text.

Illustration number
↓
DISPLAY 21 (14, 21)
↑ Name of button/part ↑ Reference page

Main unit

ALPHABETICAL ORDER

A – O

ALBUM +/– 15 (10, 11, 16)
BASS/TREBLE 5 (18)
Cassette compartment 11
CD SYNCHRO 13 (16)
DISPLAY 20 (14, 21)
Display window 2
i-Bass 6 (18)
OPEN (CD open/close) 4 (10)

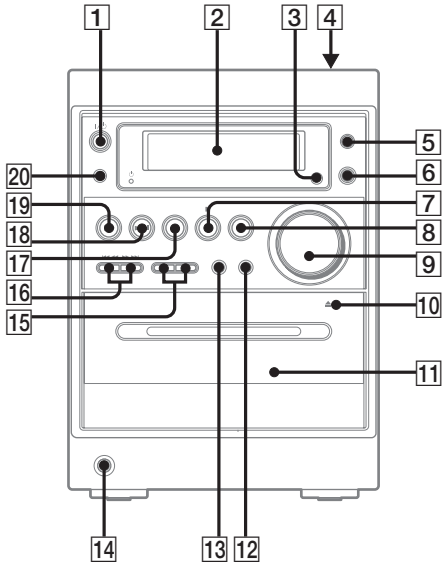
P – Z

PHONES jack 14
PLAY MODE 8 (9, 11, 16)
Remote sensor 3
TUNER/BAND 17 (12, 13)
TUNING +/– 16 (12, 13, 18)
TUNING MODE 8 (12, 13)
VOLUME 9 (19, 23, 25)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (7, 19, 20, 25)
⏮◀◀/▶▶⏭ (skip back/skip forward, rewind/fast forward) 16 (10, 11, 15)
■ (stop) 7 (10, 16, 17, 25)
● REC PAUSE/START 12 (16, 17)
CD/▶II (play/pause) 18 (10, 11, 23)
TAPE/▶ (play) 19 (15)
⏏ PUSH (tape open/close) 10 (15)

1) XR-EM220/XR-EM330 only.
2) XR-EM550 only.
3) XR-EM550/XR-EM330 only.
4) XR-EM220 only.



Remote control

ALPHABETICAL ORDER

A – O

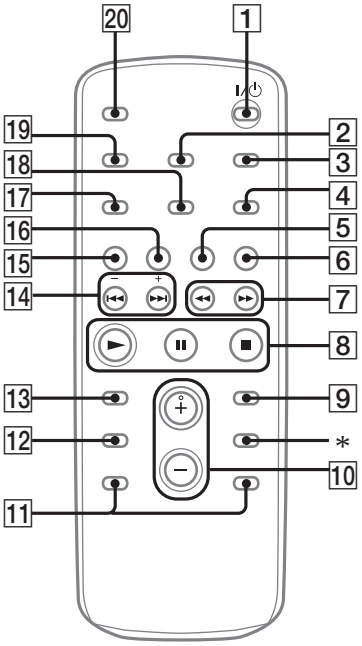
ALBUM +/– 11 (10, 11, 16)
CD 16 (9, 11)
CLEAR 13 (11)
CLOCK/TIMER SELECT 2 (19, 20, 23)
CLOCK/TIMER SET 3 (8, 19, 20)
DISPLAY 19 (14, 21)
ENTER 9 (8, 11, 12, 19, 20)
EQ 12 (18)
FM MODE 4 (13, 24)
FUNCTION 6 (22, 24)

P – Z

PLAY MODE 18 (9, 11, 24)
REPEAT 4 (10)
SLEEP 20 (18)
TAPE 15 (15)
TUNER/BAND 5 (12, 13)
TUNER MEMORY 17 (12)
TUNING MODE 18 (12, 13)
VOLUME +/– 10 (19, 23)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (7, 19, 20, 25)
◀◀/▶▶ (rewind/fast forward) 7 (10, 15)
I◀◀ /▶▶I (go back/go forward) 14 (8, 10, 11, 19, 20)
■ (stop) 8 (10, 16, 17, 25)
❚❚ (pause) 8 (10, 15)
► (play) 8 (9, 11, 20)
+/– (tuning) 14 (12, 13)



Setting the clock

Use buttons on the remote for the operation.

1 Press I/⏻ to turn on the system.

2 Press CLOCK/TIMER SET.

3 Press I◀◀ /▶▶I repeatedly to set the hour.

4 Press ENTER.

5 Press I◀◀ /▶▶I repeatedly to set the minute.

6 Press ENTER.

The clock starts working.

To adjust the clock

1 Press CLOCK/TIMER SET.

2 Press I◀◀ /▶▶I until “CLOCK” appears, then press ENTER.

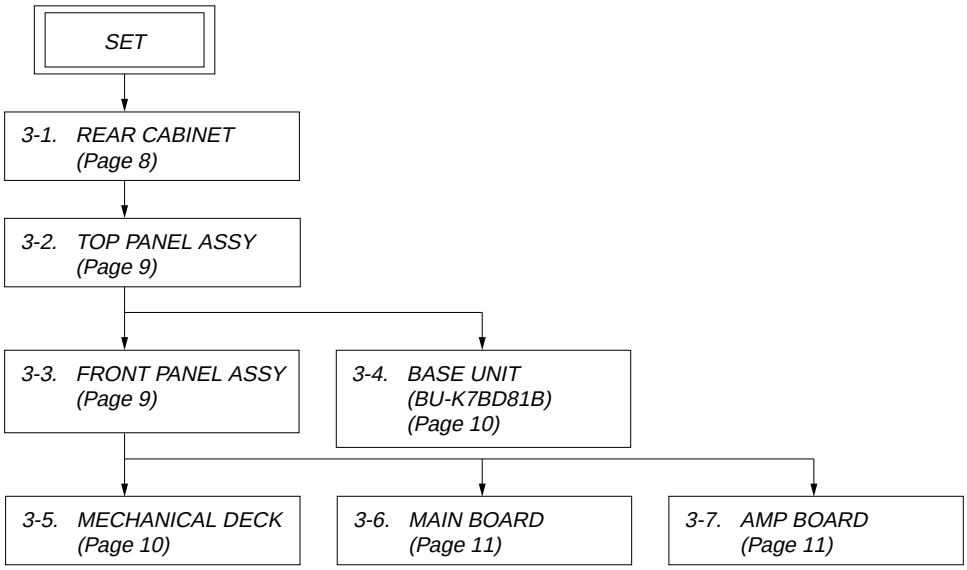
3 Do the same procedures as step 3 to 6 above.

Note

The clock is not displayed in Power Saving Mode (page 21).

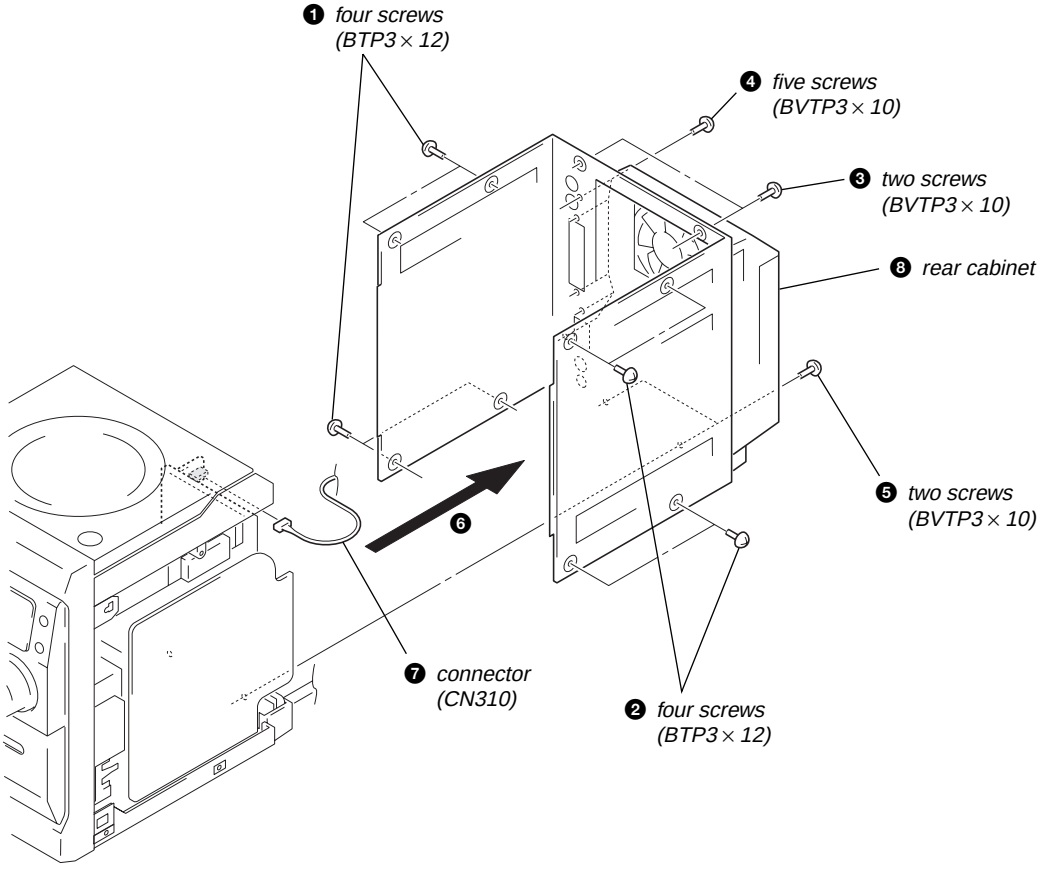
SECTION 3
DISASSEMBLY

• This set can be disassembled in the order shown below.

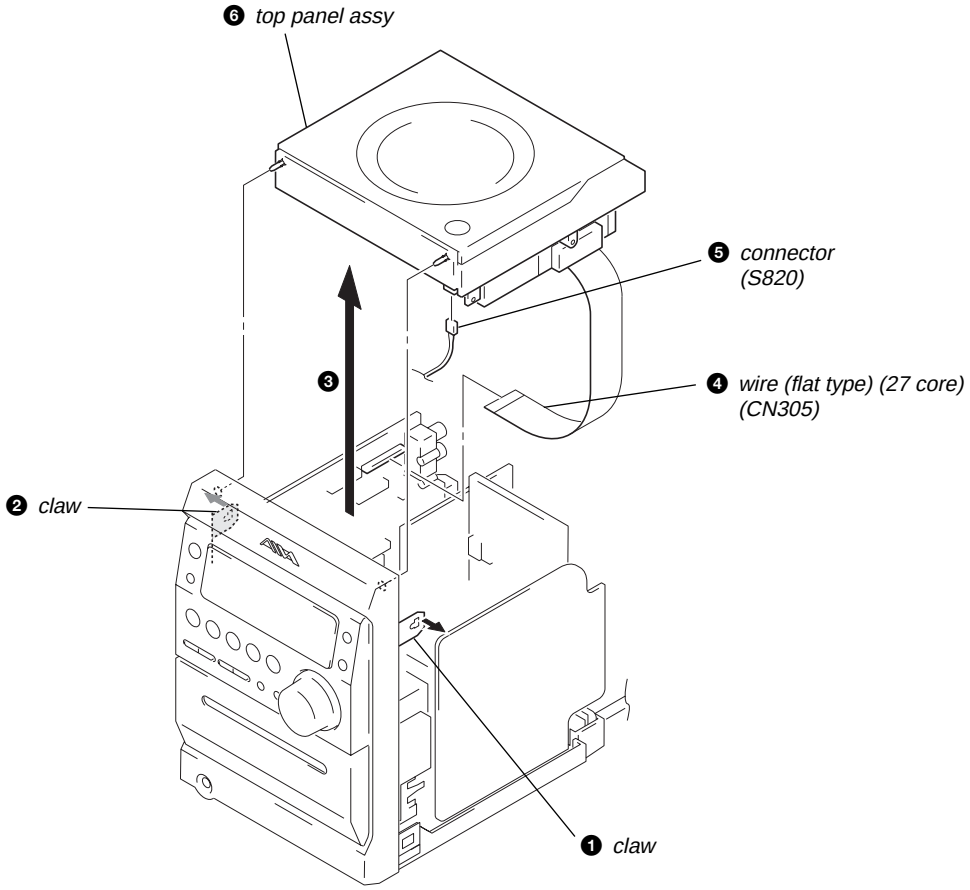

SET
3-1. REAR CABINET (Page 8)
3-2. TOP PANEL ASSY (Page 9)
3-3. FRONT PANEL ASSY (Page 9)
3-4. BASE UNIT (BU-K7BD81B) (Page 10)
3-5. MECHANICAL DECK (Page 10)
3-6. MAIN BOARD (Page 11)
3-7. AMP BOARD (Page 11)

Note: Follow the disassembly procedure in the numerical order given.

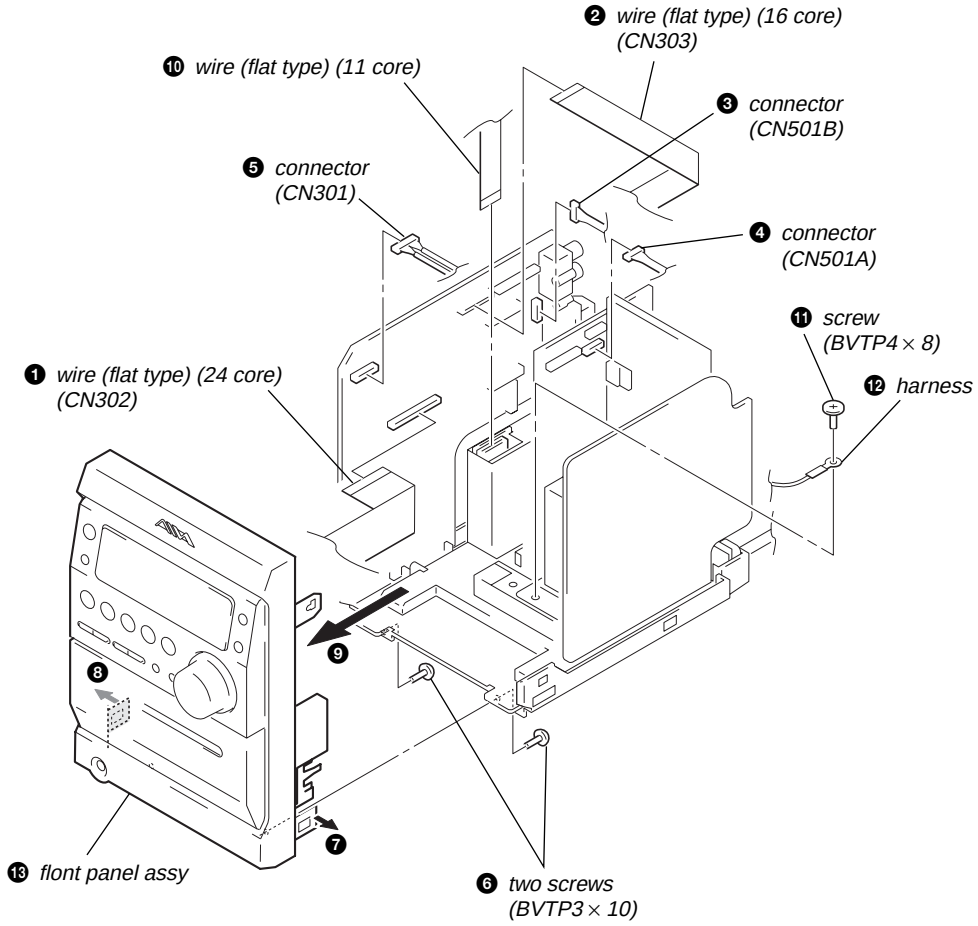
3-1. REAR CABINET


❶ four screws (BTP3 × 12)
❹ five screws (BVTP3 × 10)
❸ two screws (BVTP3 × 10)
❽ rear cabinet
❺ two screws (BVTP3 × 10)
❻
❼ connector (CN310)
❷ four screws (BTP3 × 12)

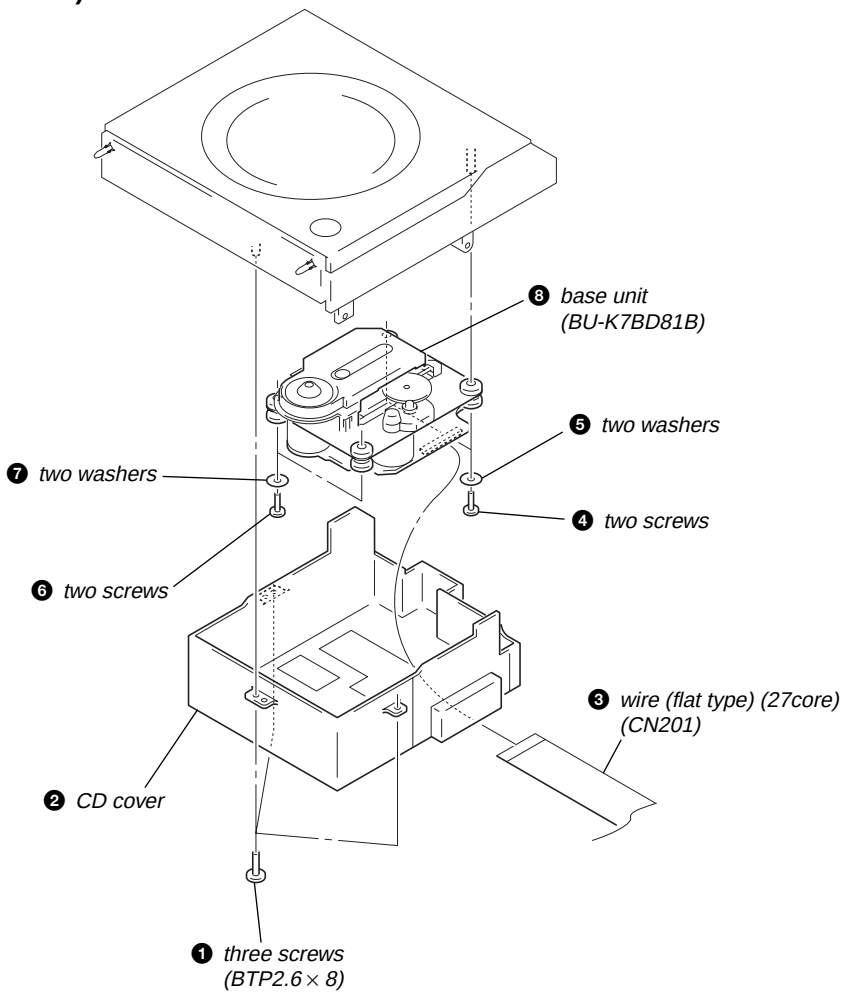
3-2. TOP PANEL ASSY



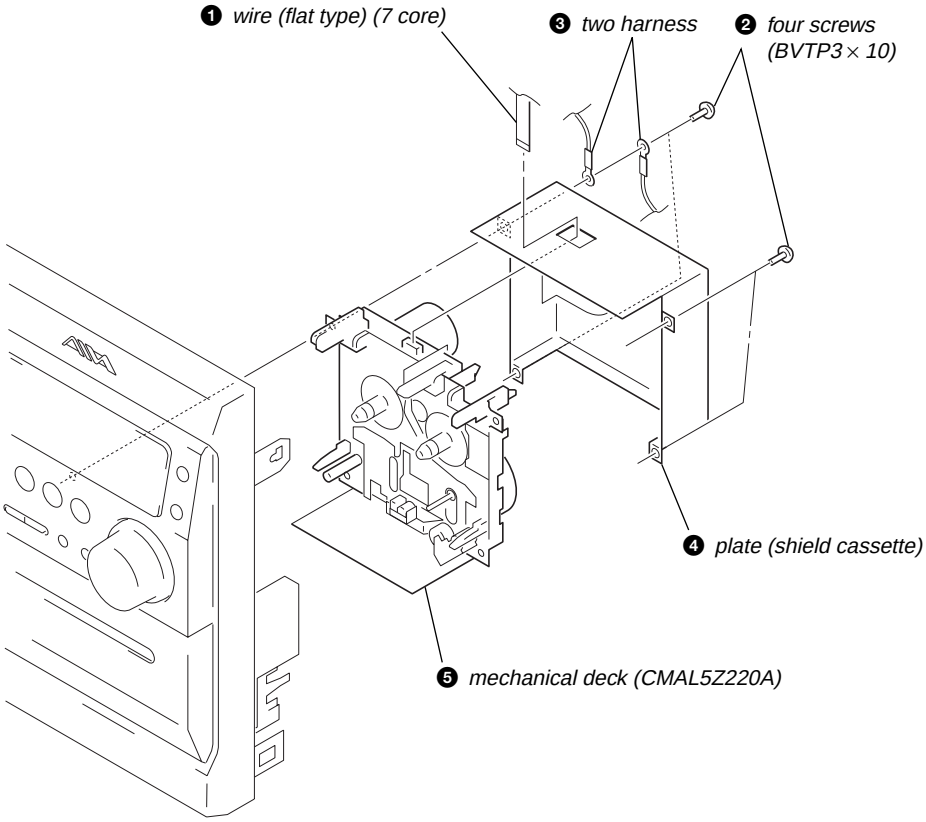
3-3. FRONT PANEL ASSY



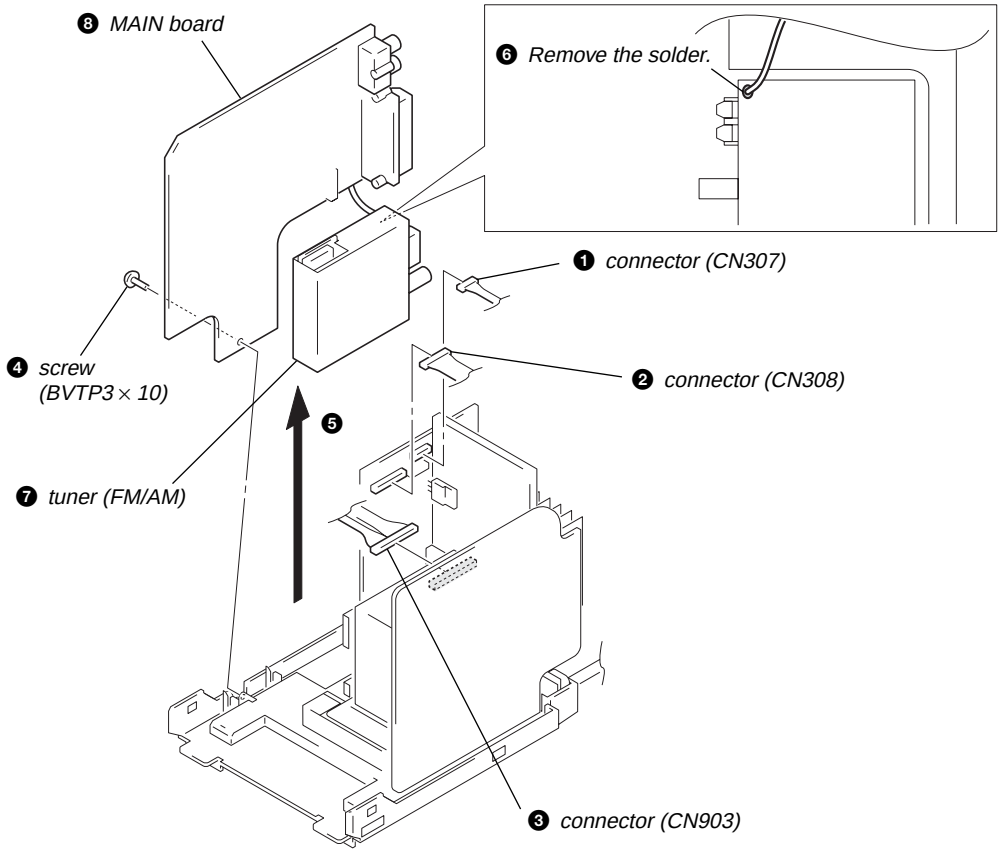
3-4. BASE UNIT (BU-K7BD81B)



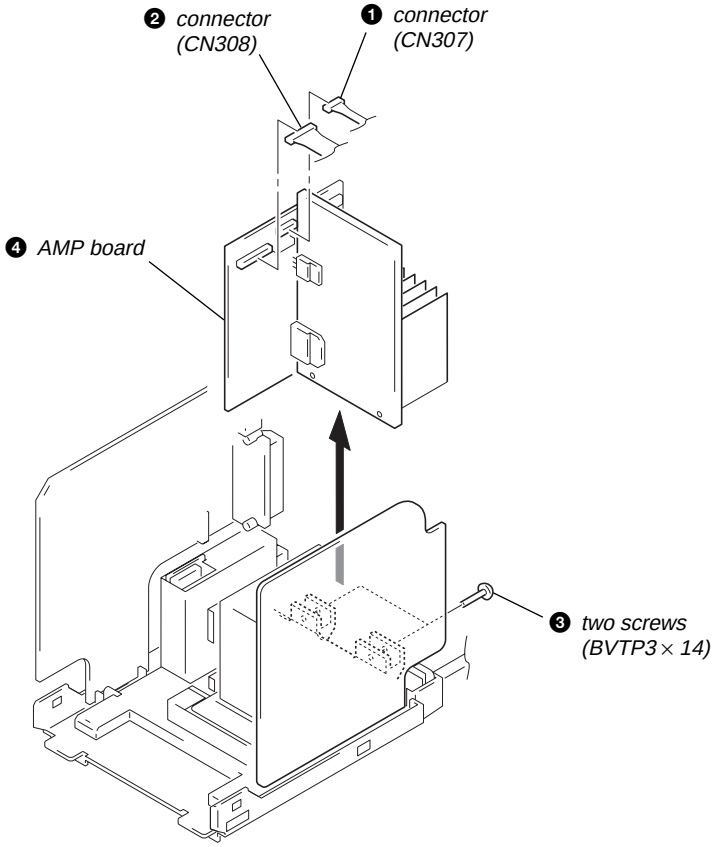
3-5. MECHANICAL DECK



3-6. MAIN BOARD



3-7. AMP BOARD



SECTION 4
TEST MODE

COLD RESET

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

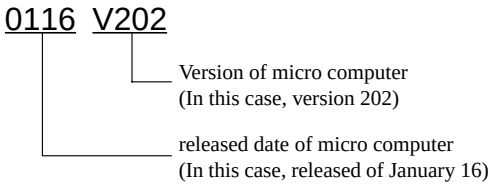
1. Press the I/⏻ button to turn the power on.
2. While pressing the ■ button, press the I/⏻ button and turn the VOLUME knob in the counter-clock wise.
3. The message “RESET” is displayed and the set is reset.

PANEL TEST

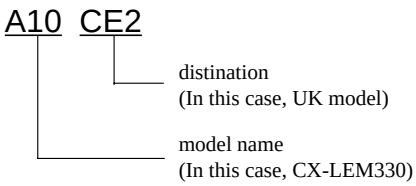
- All segments of liquid crystal display are tested, and the version and released date of the micro computer are displayed.

Procedure:

1. Press the I/⏻ button to turn the power on.
2. While pressing the DISPLAY button, press the I/⏻ button and turn the VOLUME knob in the counter-clock wise. Then all segments of liquid crystal display are turned on.
3. Press the i-BASS button, the version and released date of the micro computer are displayed.
   example of display:


0116 V202
Version of micro computer
(In this case, version 202)
released date of micro computer
(In this case, released of January 16)

4. Press the BASS/TREBLE button, the model name and distination are displayed.
   example of display:



5. To exit from this mode, perform the “COLD RESET”.

TUNER STEP CHANGE-OVER (EXCEPT FOR AEP, UK MODEL)

- Either the 9 kHz step or 10 kHz step can be selected for the AM channel step.

Procedure:

1. Set the FUNCTION to AM, and press the I/⏻ button to turn the power off.
2. While depressing the TUNING + ▶▶ ▶▶I button, press the I/⏻ button.
3. The message “9K STEP” or “10K STEP” is displayed on the liquid crystal display, and thus the channel step is changed over.

SECTION 5
MECHANICAL ADJUSTMENTS

TAPE MECHANISM DECK SECTION

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback heads pinch rollers
   erase head rubber belts
   capstan idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	2.94 mN • m to 7.84 mN • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.14 mN • m to 0.59 mN • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.86 mN • m to 17.64 mN • m 71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	more than 0.98 N • m 100 g or more (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

DECK SECTION | 0 dB = 0.775 V

Precaution

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

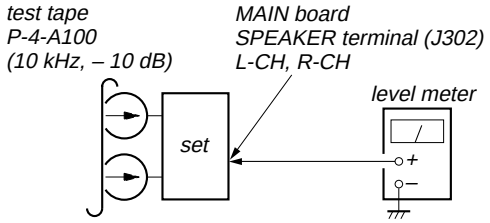
Test Tape

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Check

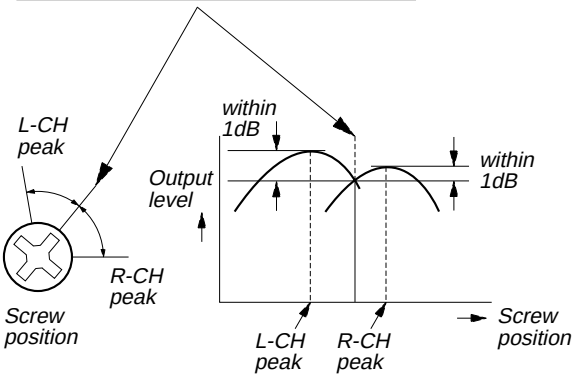
Record/Playback Head Azimuth Adjustment

Procedure:

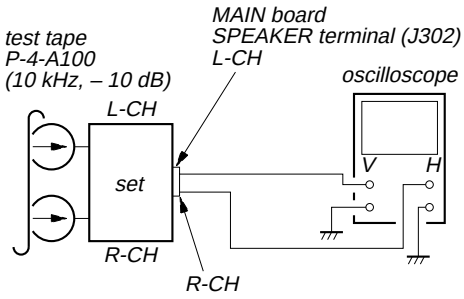
1. Mode: Playback

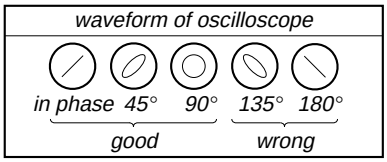


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



3. Mode: Playback



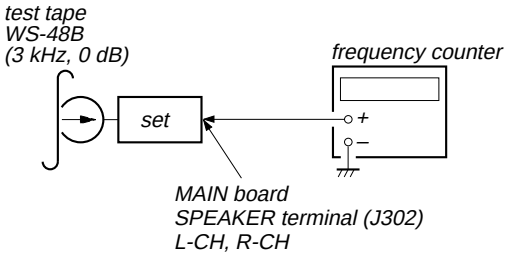


4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Record/Playback/Erase Head

Tape Speed Check

Mode: Playback



1. Insert the WS-48B into the deck.
2. Press the ▶ button on the deck.
3. Confirm that the frequency counter reads 3,000 ± 90 Hz.

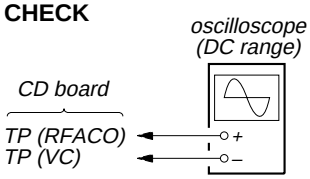
Sample value of Wow and Flutter: 0.3% or less W.RMS (JIS)
(WS-48B)

CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10 MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Check the focus bias check when optical block is replaced.

FOCUS BIAS CHECK

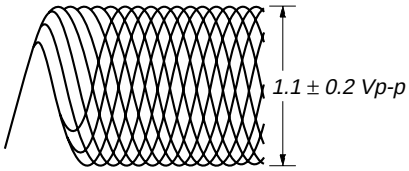


Procedure :

1. Connect the oscilloscope to TP (RFACO) and TP (VC) on the CD board.
2. Insert the disc (YEDS-18). (Part No. : 3-702-101-01)
3. Press the CD ▶❚❚ button.
4. Confirm that the oscilloscope waveform is as shown in the figure below. (eye pattern)
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.

• RF signal reference waveform (eye pattern)

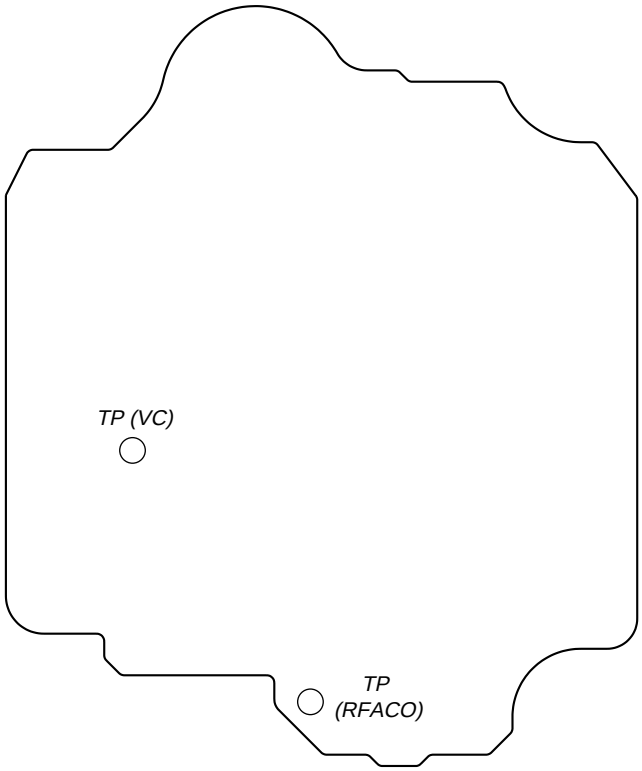
VOLT/DIV: 0.2 V (with the 10: 1 probe in use.)
TIME/DIV: 500 ns



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Checking Location:

– CD BOARD (Conductor Side) –



SECTION 7
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For Schematic Diagrams.
Note:

- All capacitors are in µF unless otherwise noted. (p: pF). 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- : B+ Line.
- : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: TUNER (FM)
  ( ) : CD PLAY
  〈 〉 : TAPE REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : TUNER (FM/AM)
  : CD PLAY
  : TAPE PLAY
  : TAPE REC
  : MD (AUX) IN
- Abbreviation

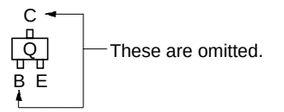
AUS : Australian model
AR : Argentine model
E51 : Chilean and peruvian models
KR : Korea model
MX : Mexican model
SP : Singapore model
TW : Taiwan model

For Printed Wiring Boards.
Note:

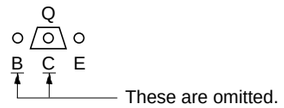
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : indicates side identified with part number.
- △ : internal component.
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:
Pattern face side (Conductor side) : Parts on the pattern face side seen from the pattern face are indicated.
Parts face side (Component side) : Parts on the parts face side seen from the parts face are indicated.

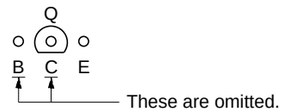
- Indication of transistor.



These are omitted.

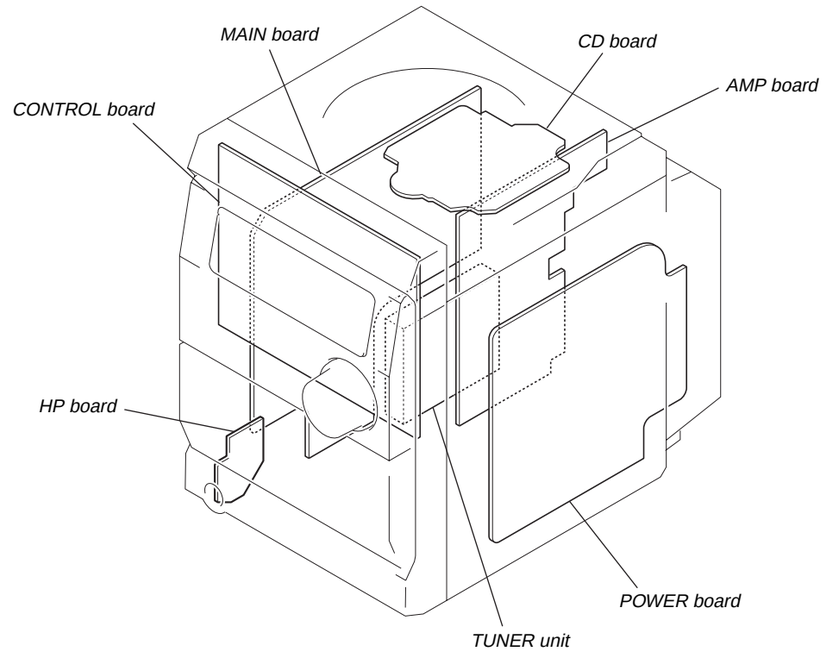


These are omitted.



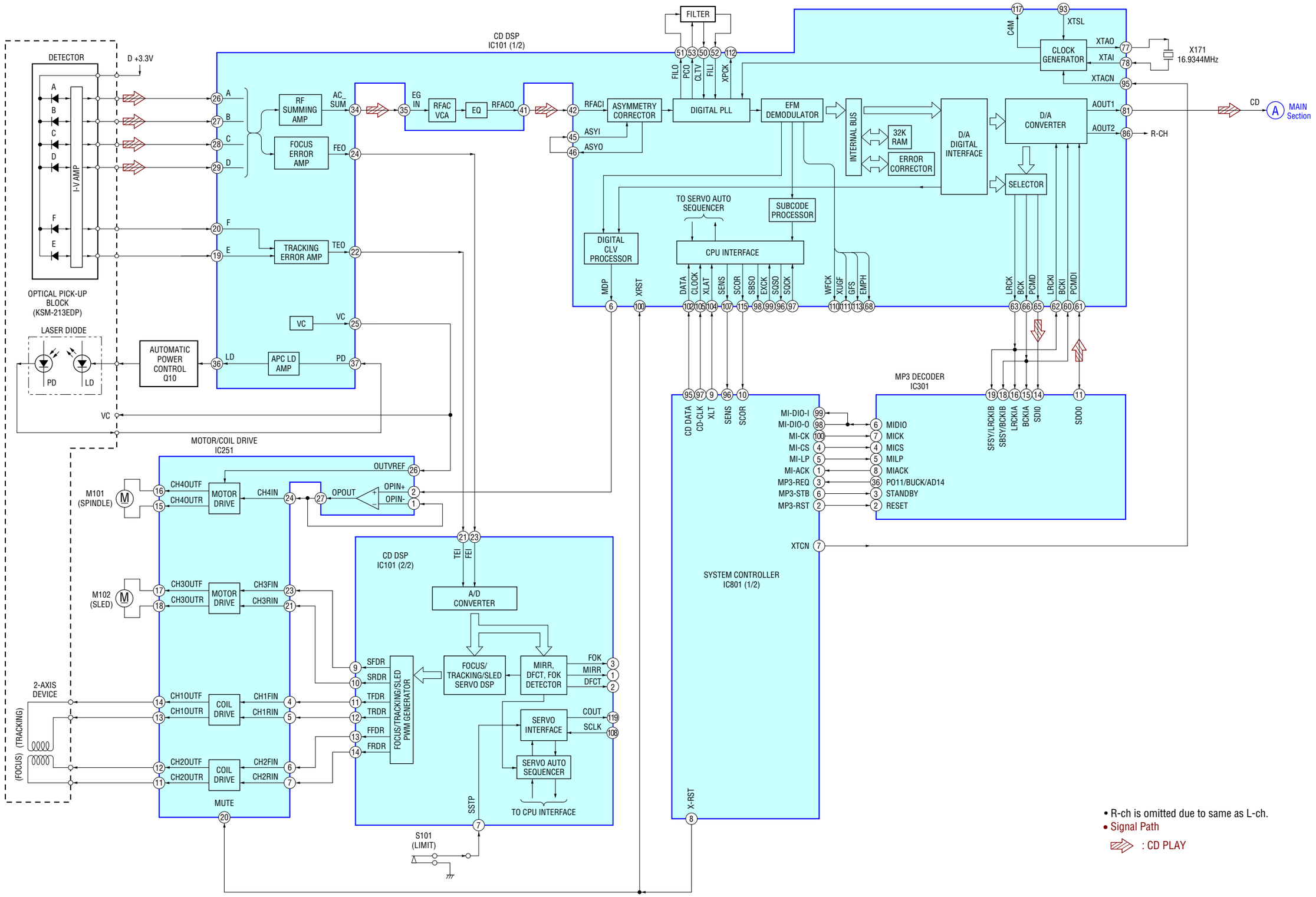
These are omitted.

- **Circuit Boards Location**



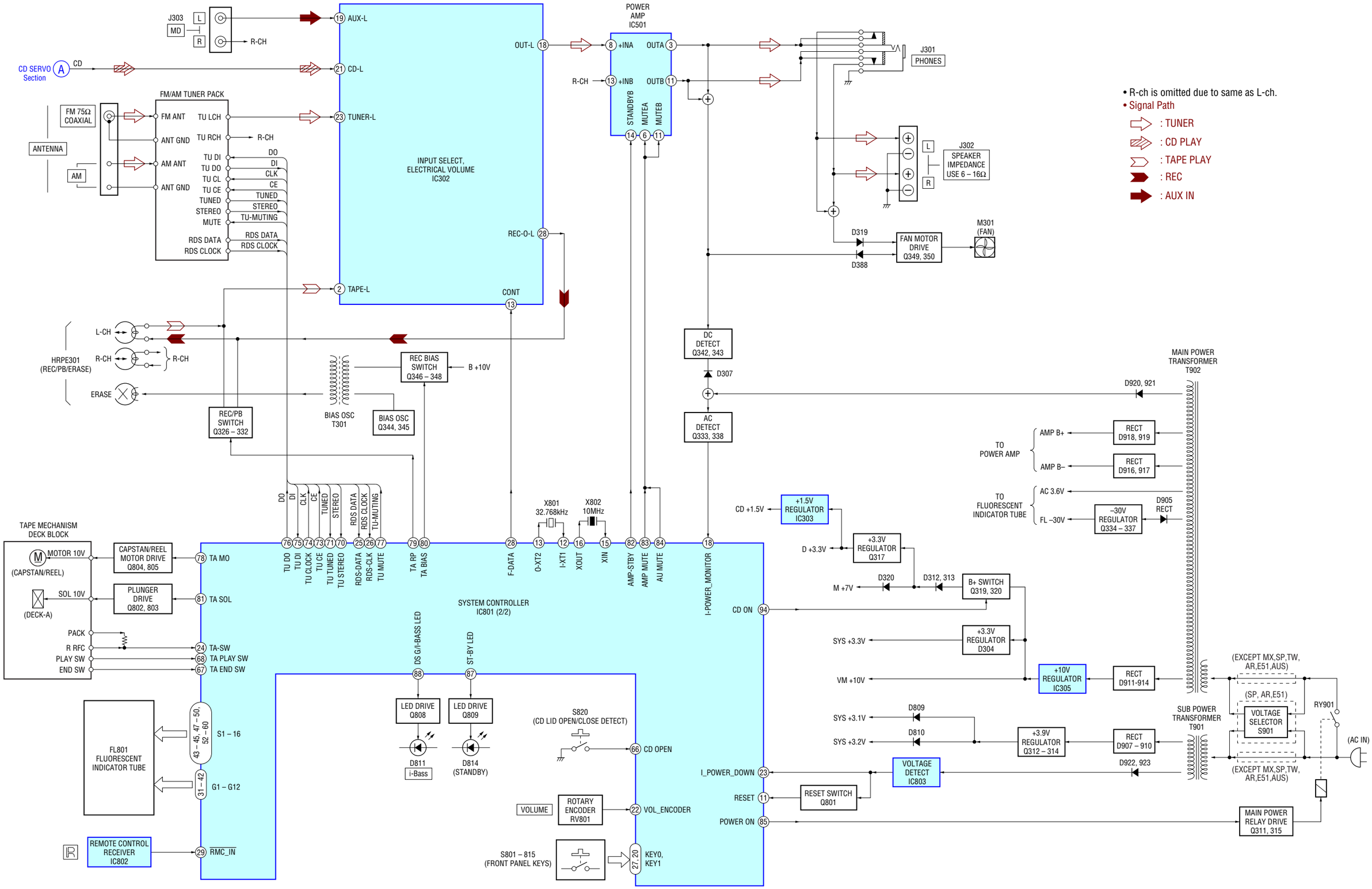
CX-LEM330

7-1. BLOCK DIAGRAM — CD SERVO SECTION —



- R-ch is omitted due to same as L-ch.
- Signal Path
  : CD PLAY

— MAIN SECTION —

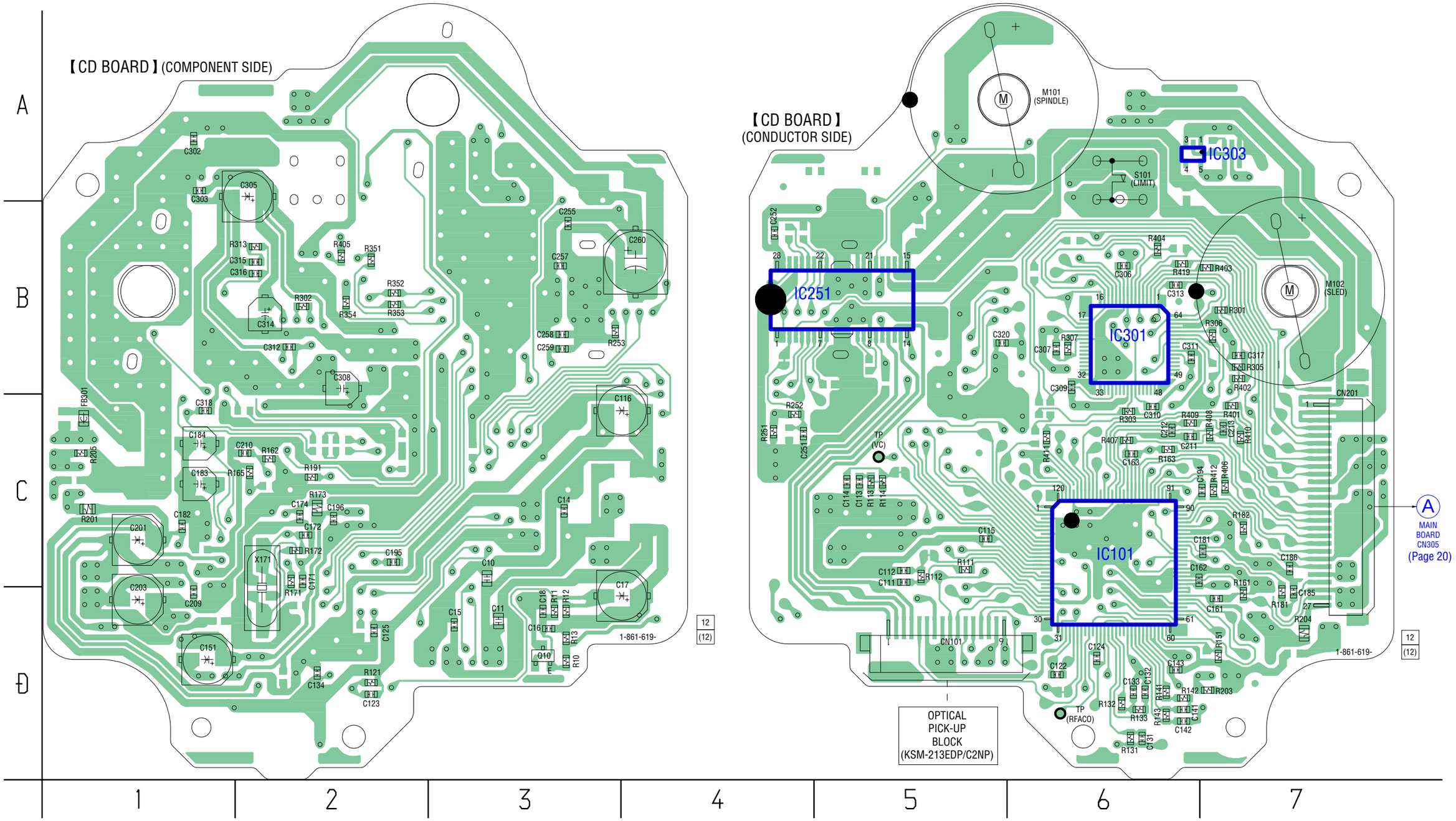


- R-ch is omitted due to same as L-ch.
- Signal Path
  - : TUNER
  - : CD PLAY
  - : TAPE PLAY
  - : REC
  - : AUX IN

7-2. PRINTED WIRING BOARD — CD BOARD —

• See page 15 for Circuit Boards Location.

:Uses unleaded solder.

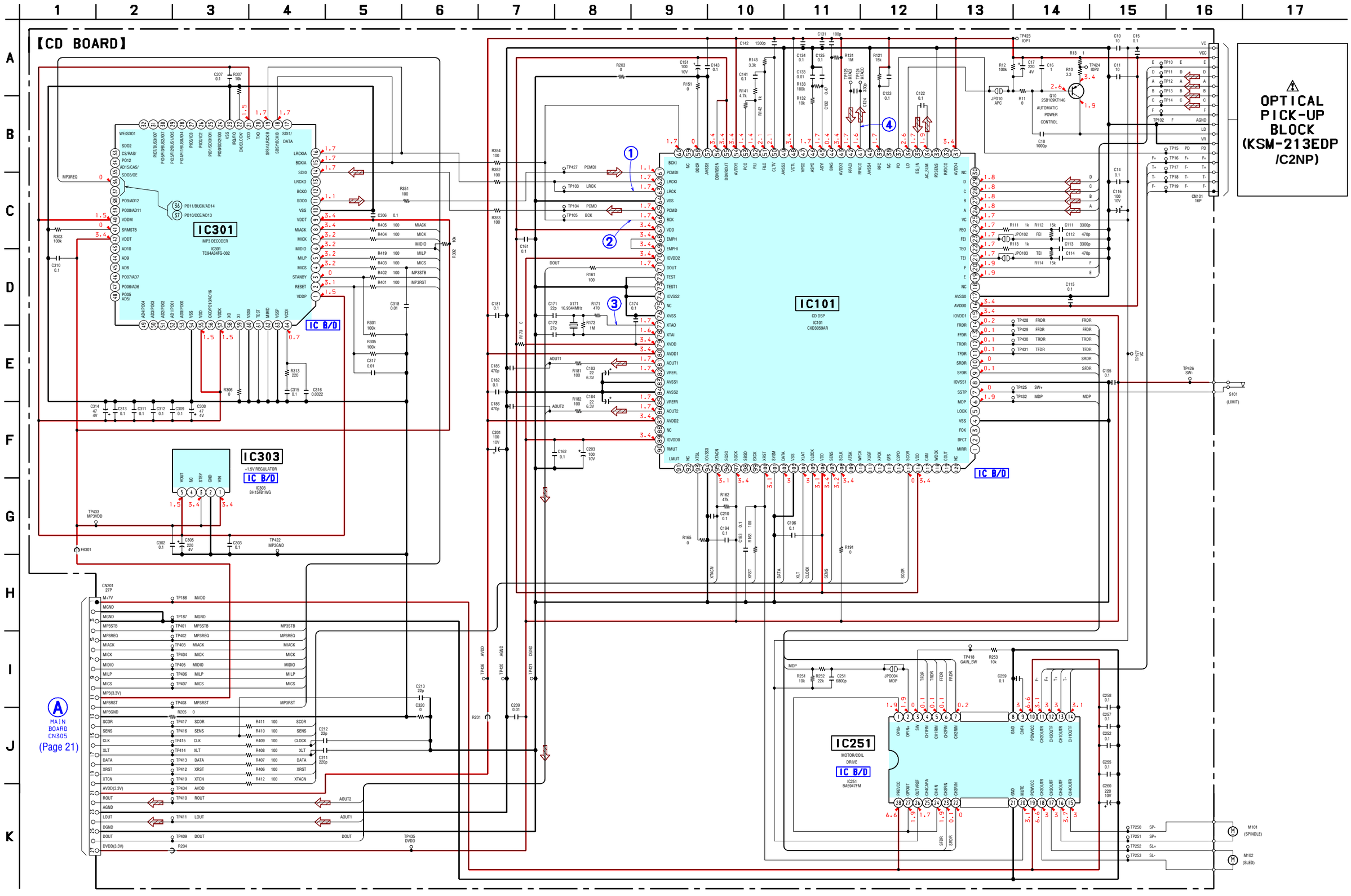


• **Semiconductor Location**

Ref. No.	Location
IC101	C-6
IC251	B-4
IC301	B-6
IC303	A-6
Q10	D-3

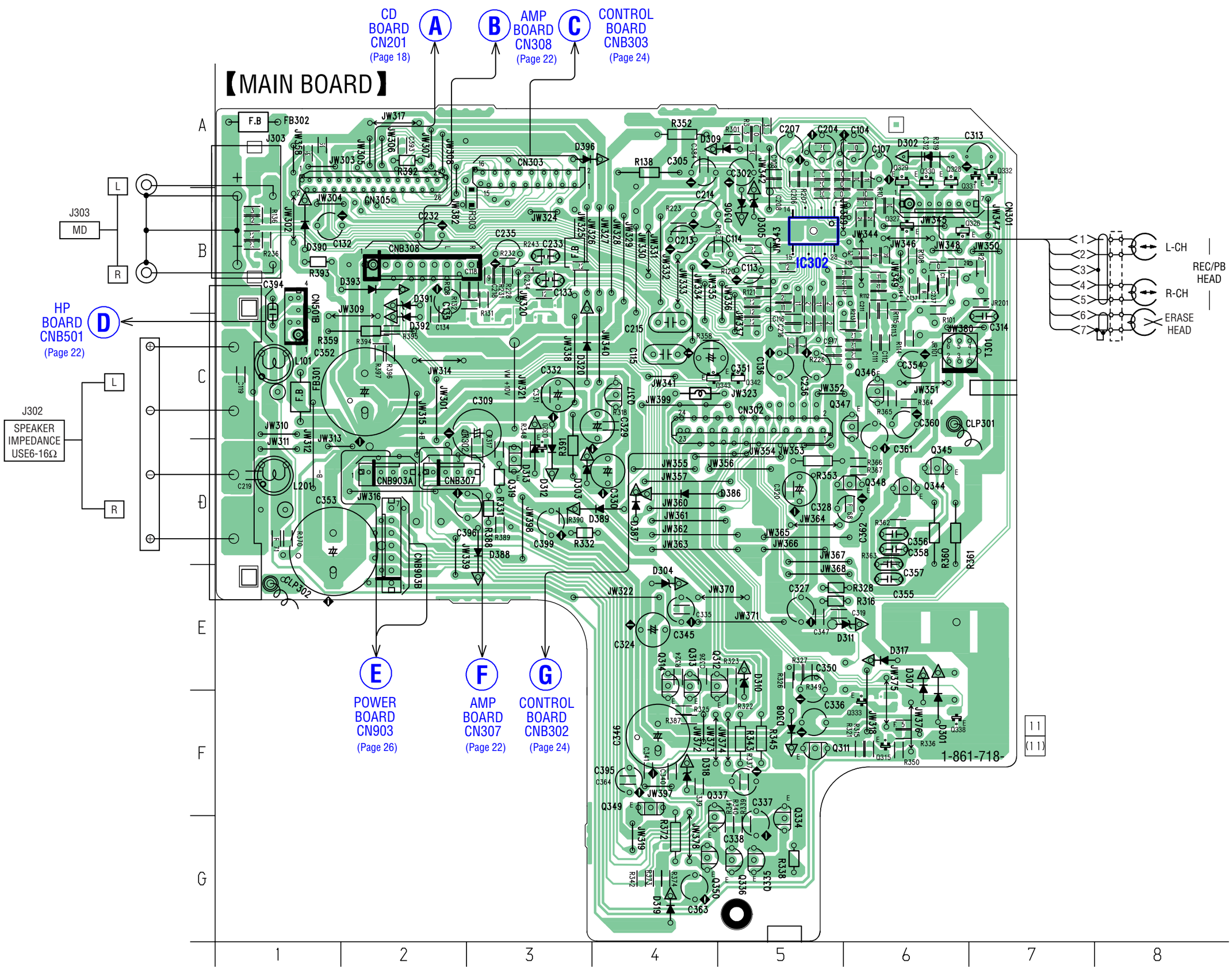
7-3. SCHEMATIC DIAGRAM — CD BOARD —

• See page 28 for Waveforms. • See page 28 to 30 for IC Block diagrams.



7-4. PRINTED WIRING BOARD — MAIN BOARD —

• See page 15 for Circuit Boards Location. :Uses unleaded solder.

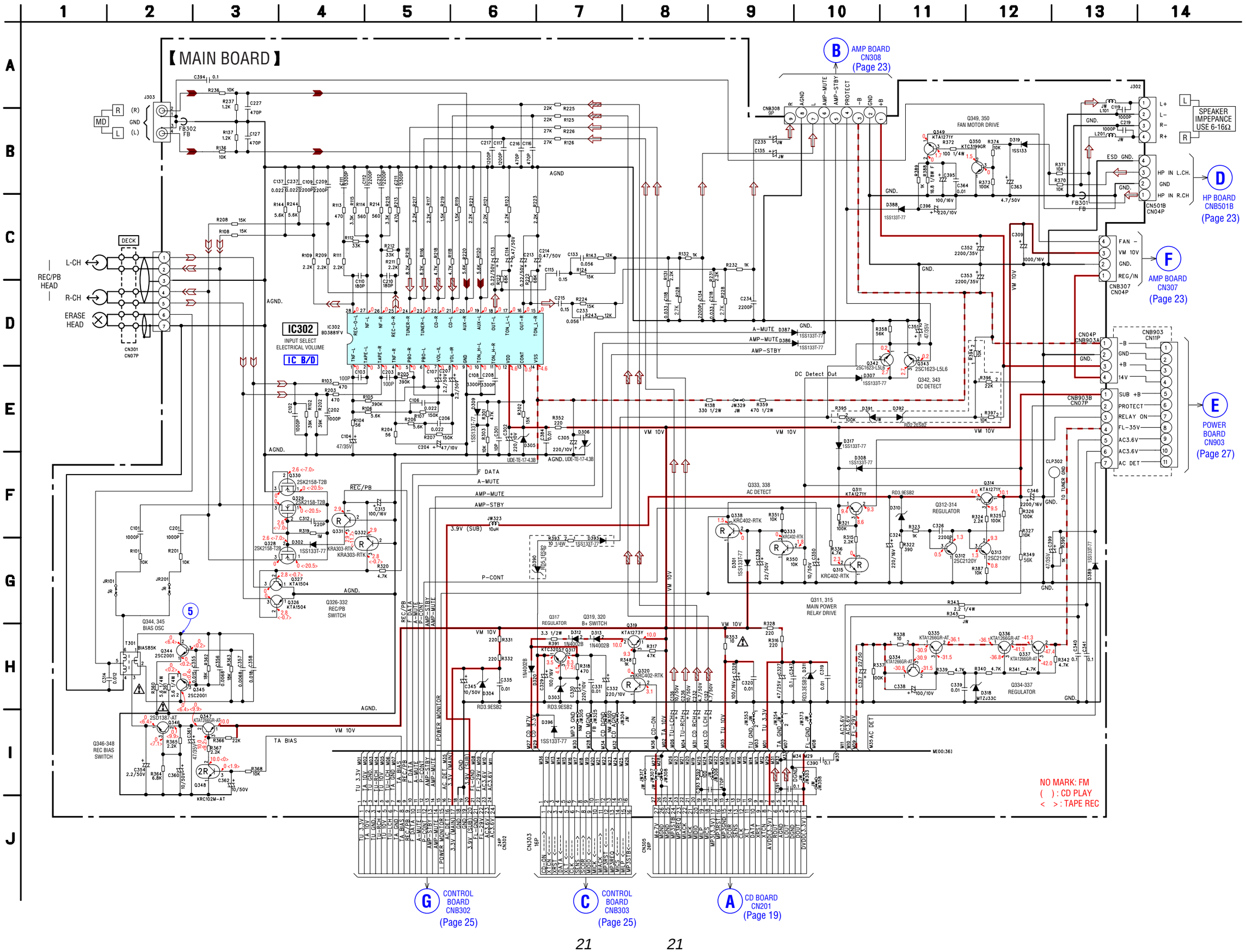


• Semiconductor Location

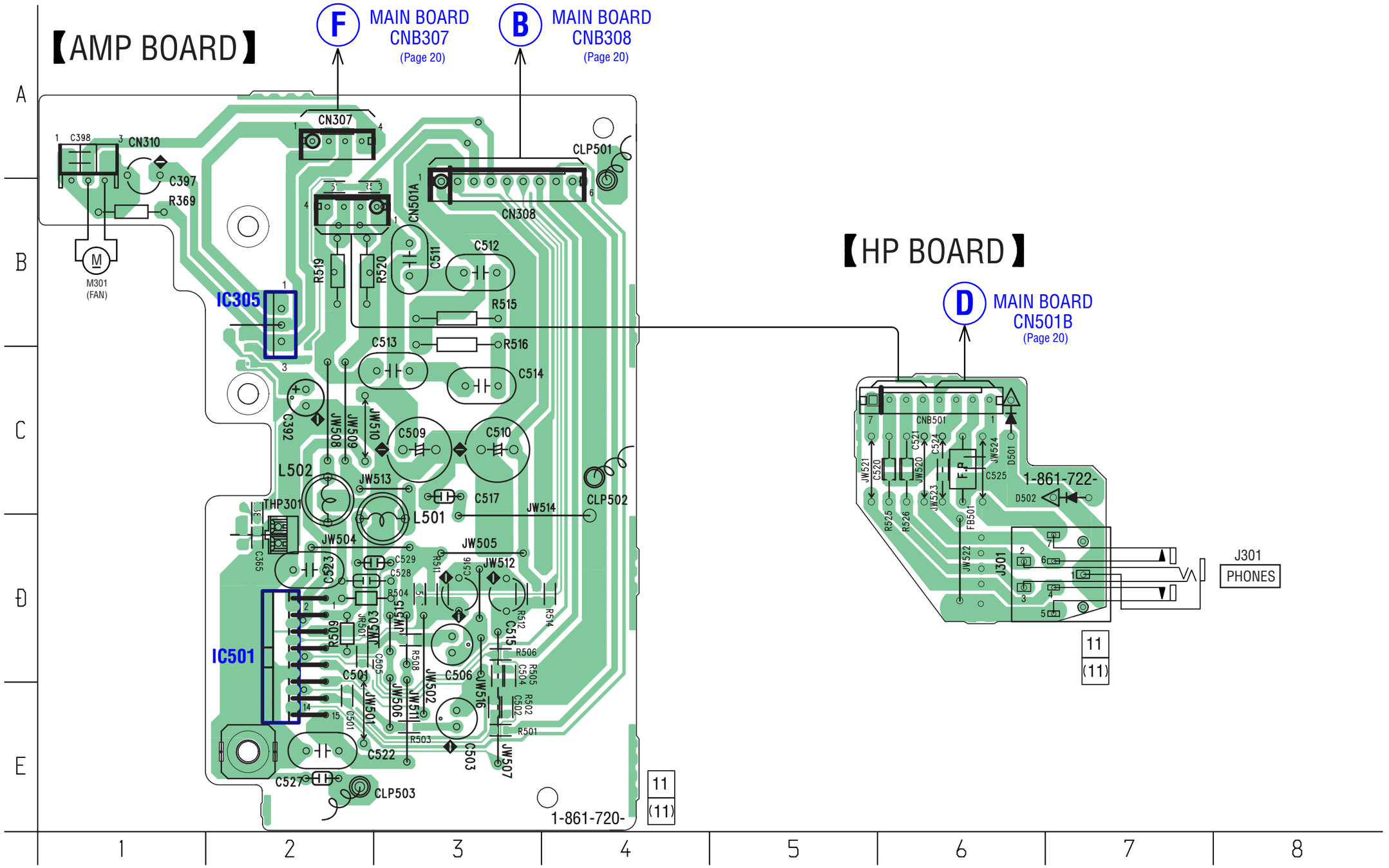
Ref. No.	Location
D301	F-6
D302	C-3
D303	D-3
D304	E-4
D305	B-5
D306	B-5
D307	E-6
D308	F-5
D309	A-4
D310	E-5
D311	E-6
D312	D-3
D313	D-3
D317	E-6
D318	F-4
D319	G-4
D320	C-3
D386	D-5
D387	D-4
D388	D-3
D389	D-3
D390	B-1
D392	C-2
D393	B-2
D396	A-3
IC302	B-5
Q311	F-5
Q312	E-4
Q313	E-4
Q314	E-4
Q315	F-6
Q317	C-4
Q319	D-3
Q320	C-3
Q326	B-6
Q327	B-6
Q328	A-6
Q329	A-6
Q330	A-6
Q331	A-6
Q332	A-7
Q333	F-6
Q334	G-5
Q335	G-5
Q336	G-5
Q337	F-4
Q338	F-6
Q342	C-5
Q343	C-4
Q344	D-6
Q345	D-6
Q346	C-6
Q347	C-5
Q348	D-6
Q349	D-4
Q350	G-4

7-5. SCHEMATIC DIAGRAM — MAIN BOARD —

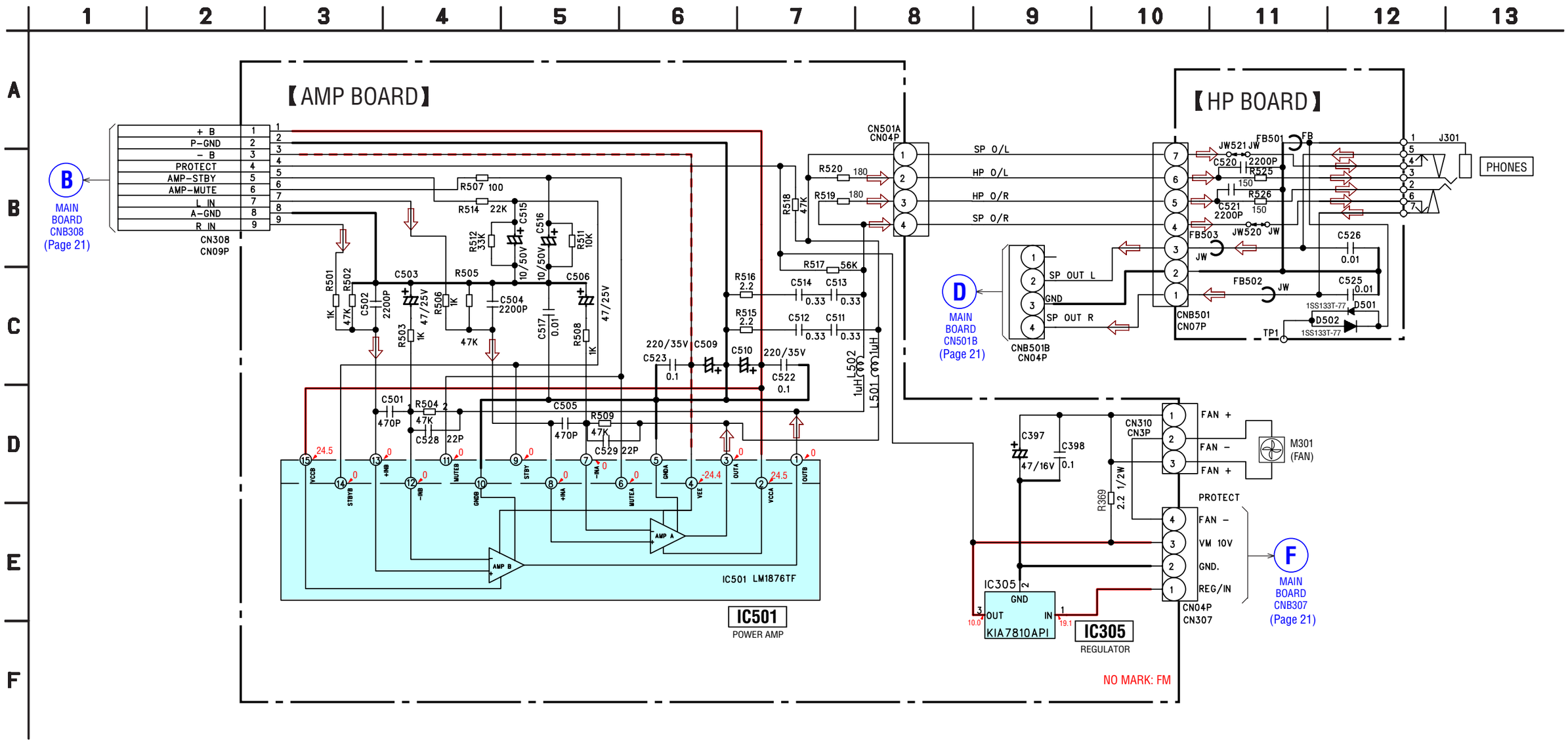
• See page 28 for Waveforms. • See page 31 for IC Block diagram.



7-6. PRINTED WIRING BOARD — AMP SECTION — • See page 15 for Circuit Boards Location. :Uses unleaded solder.

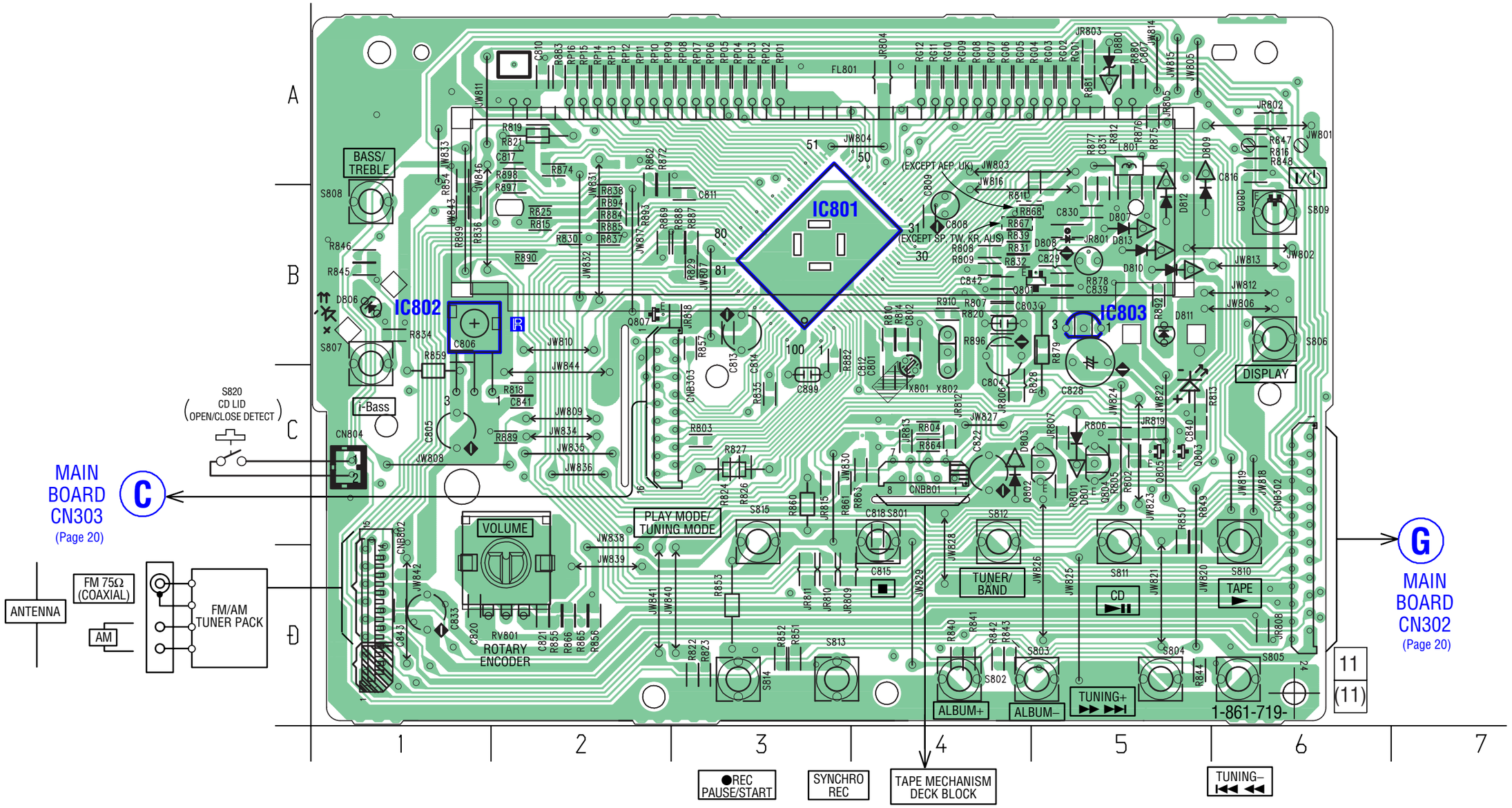


7-7. SCHEMATIC DIAGRAM — AMP SECTION —



7-8. PRINTED WIRING BOARD — CONTROL BOARD — • See page 15 for Circuit Boards Location. **:Uses unleaded solder.**

【CONTROL BOARD】

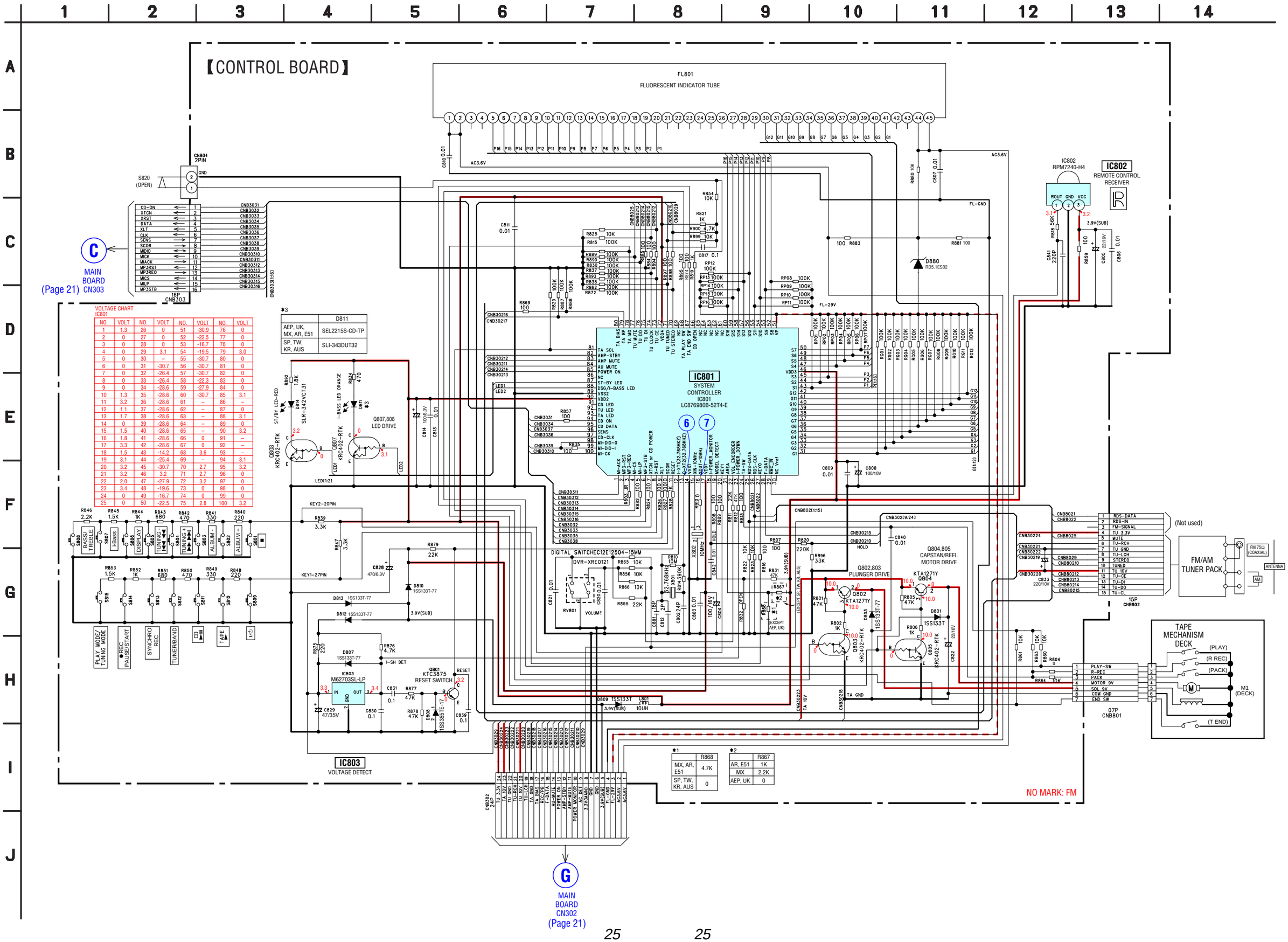


- **Semiconductor Location**

Ref. No.	Location
D803	C-4
D807	B-5
D808	B-5
D809	A-5
D810	B-5
D811	B-5
D812	B-5
D813	B-5
D880	A-5
IC801	B-3
IC802	B-1
IC803	B-5
Q801	B-4
Q802	C-5
Q803	C-5
Q804	C-5
Q805	C-5
Q807	B-5
Q808	B-6

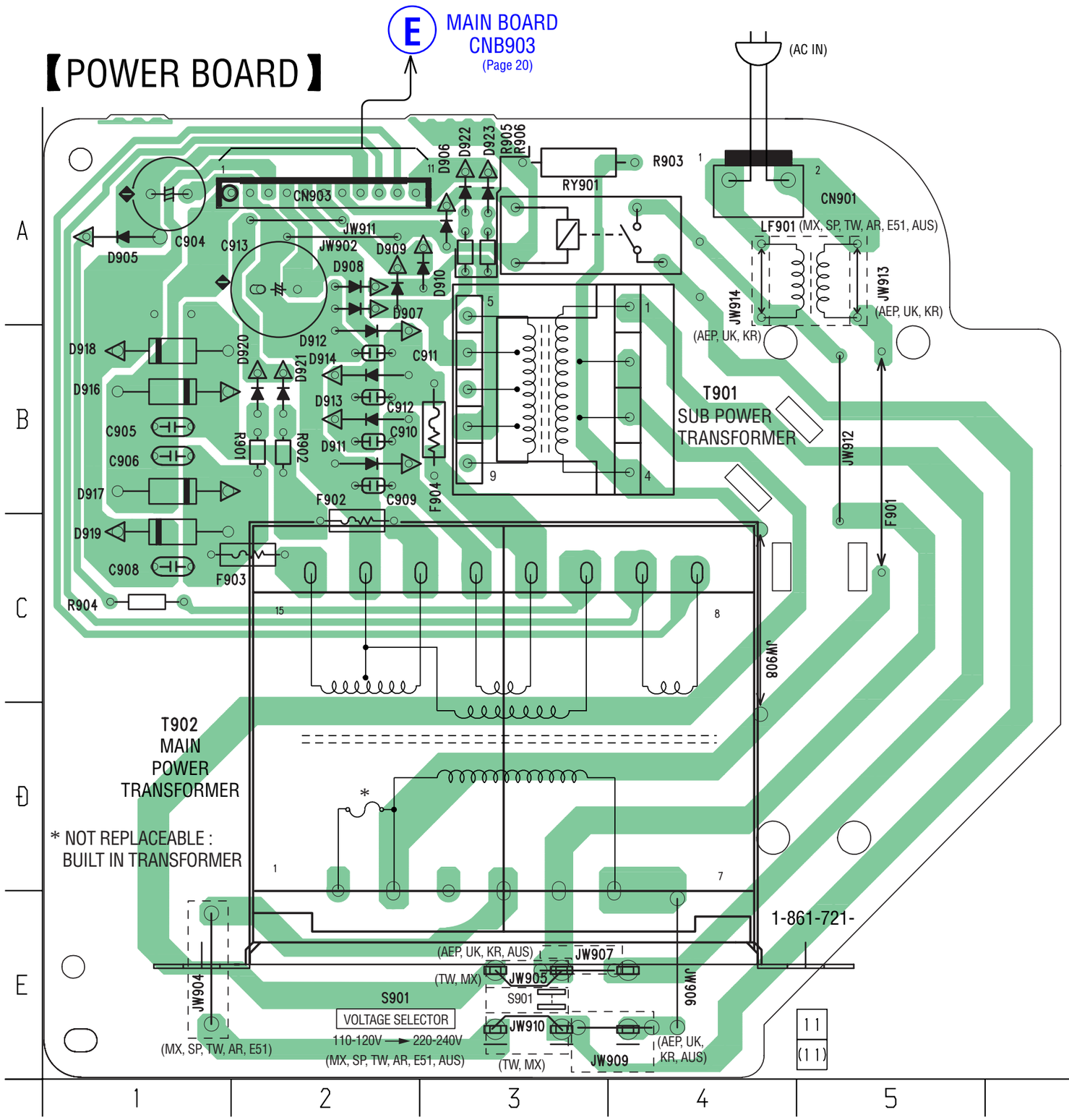
7-9. SCHEMATIC DIAGRAM — CONTROL BOARD —

• See page 28 for Waveforms. • See page 32 for IC Pin Function Description.



NO.	VOLT	NO.	VOLT	NO.	VOLT	NO.	VOLT
1	1.3	26	0	51	-30.9	76	0
2	0	27	0	52	-22.5	77	0
3	0	28	0	53	-16.7	78	0
4	0	29	3.1	54	-19.5	79	3.0
5	0	30	–	55	-30.7	80	0
6	0	31	-30.7	56	-30.7	81	0
7	0	32	-26.4	57	-30.7	82	0
8	0	33	-26.4	58	-22.3	83	0
9	0	34	-28.6	59	-27.9	84	0
10	1.3	35	-28.6	60	-30.7	85	3.1
11	3.2	36	-28.6	61	–	86	–
12	1.1	37	-28.6	62	–	87	0
13	1.7	38	-28.6	63	–	88	3.1
14	0	39	-28.6	64	–	89	0
15	1.5	40	-28.6	65	–	90	3.2
16	1.8	41	-28.6	66	0	91	–
17	3.3	42	-28.6	67	0	92	–
18	1.5	43	-14.2	68	3.6	93	–
19	3.1	44	-25.4	69	–	94	3.1
20	3.2	45	-30.7	70	2.7	95	3.2
21	3.2	46	3.2	71	2.7	96	0
22	2.0	47	-27.9	72	3.2	97	0
23	3.4	48	-19.6	73	0	98	0
24	0	49	-16.7	74	0	99	0
25	0	50	-22.5	75	2.8	100	3.2

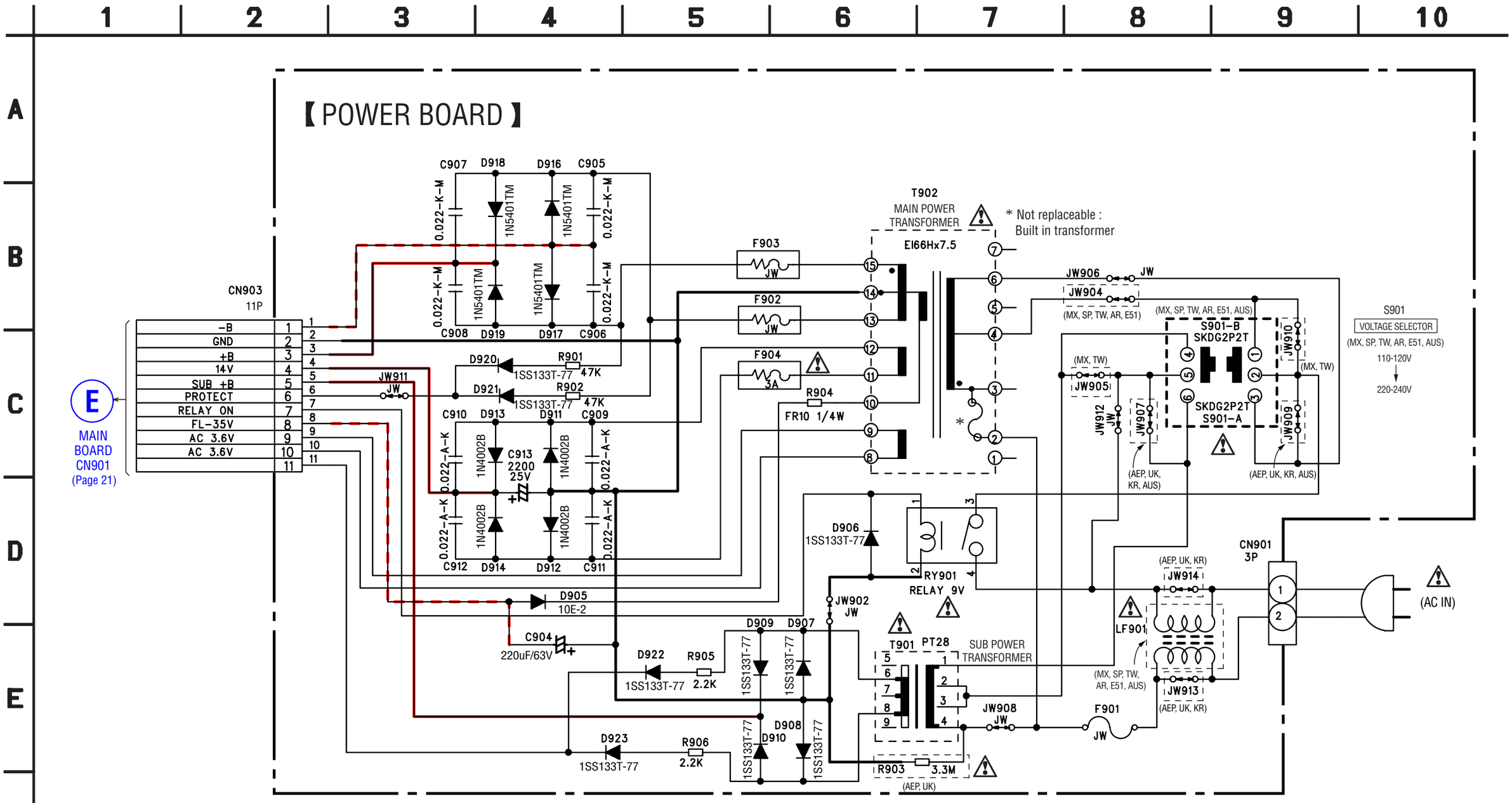
7-10. PRINTED WIRING BOARD — POWER BOARD — • See page 15 for Circuit Boards Location. :Uses unleaded solder.



- **Semiconductor Location**

Ref. No.	Location
D905	A-1
D906	A-3
D907	A-2
D908	A-2
D909	A-2
D910	A-3
D911	B-2
D912	B-2
D913	B-2
D914	B-2
D916	B-1
D917	B-1
D918	B-1
D919	C-1
D920	B-2
D921	B-2
D922	A-3
D923	A-3

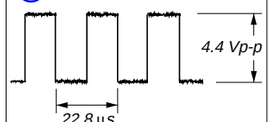
7-11. SCHEMATIC DIAGRAM — POWER BOARD —



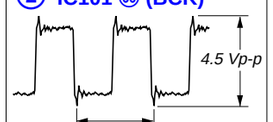
• **Waveforms**

– CD Board –

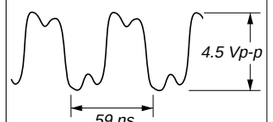
① IC101 ㊸ (LRCK)



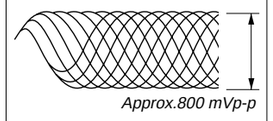
② IC101 ㊻ (BCK)



③ IC101 ㊼ (XTAO)

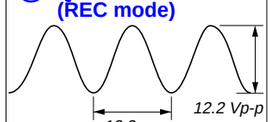


④ IC101 ㊶ (RFACO)



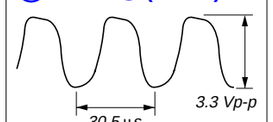
– MAIN Board –

⑤ Q344 collector (REC mode)

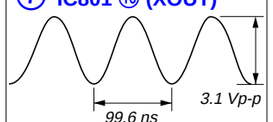


– CONTROL Board –

⑥ IC801 ⑬ (O-XT2)



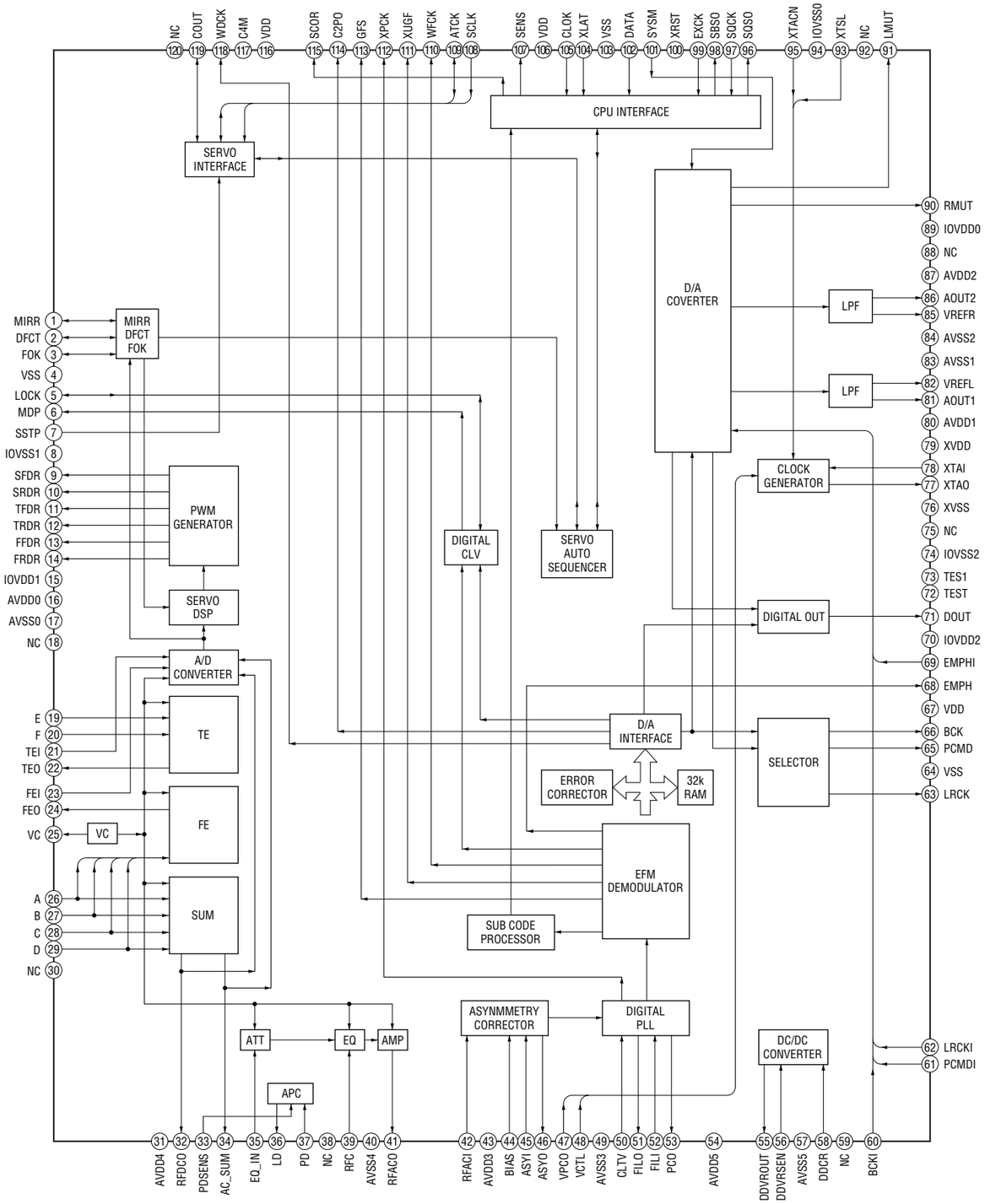
⑦ IC801 ⑯ (XOUT)



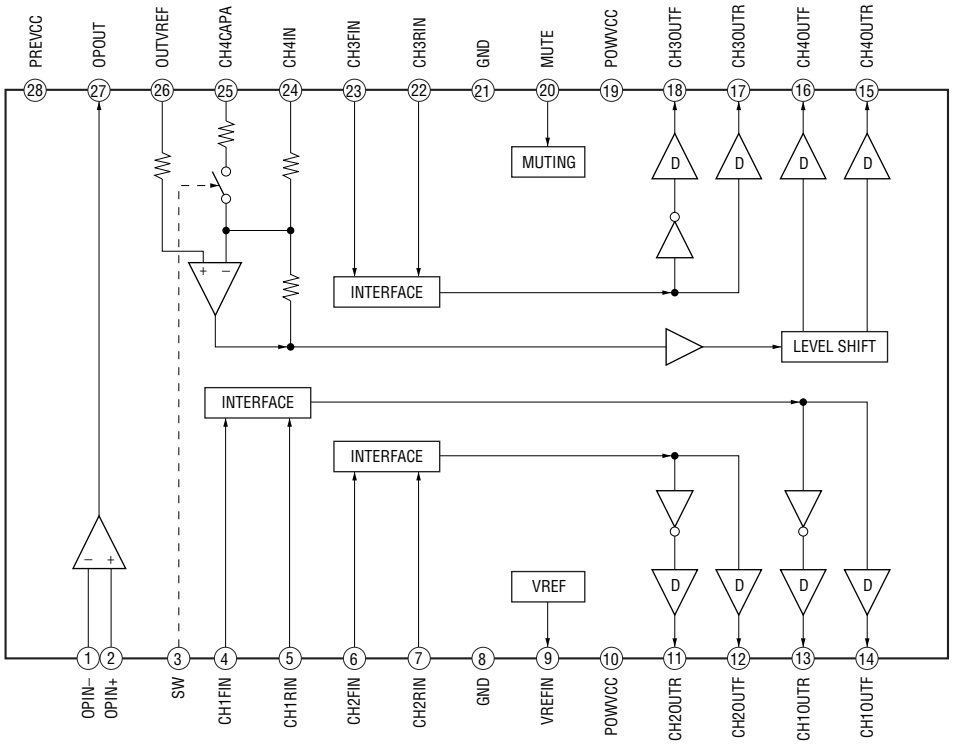
• **IC Block Diagrams**

– CD Board –

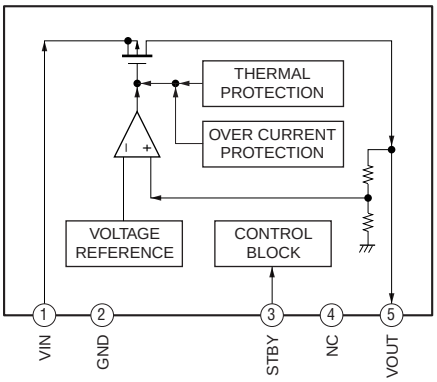
IC101 CXD3059AR



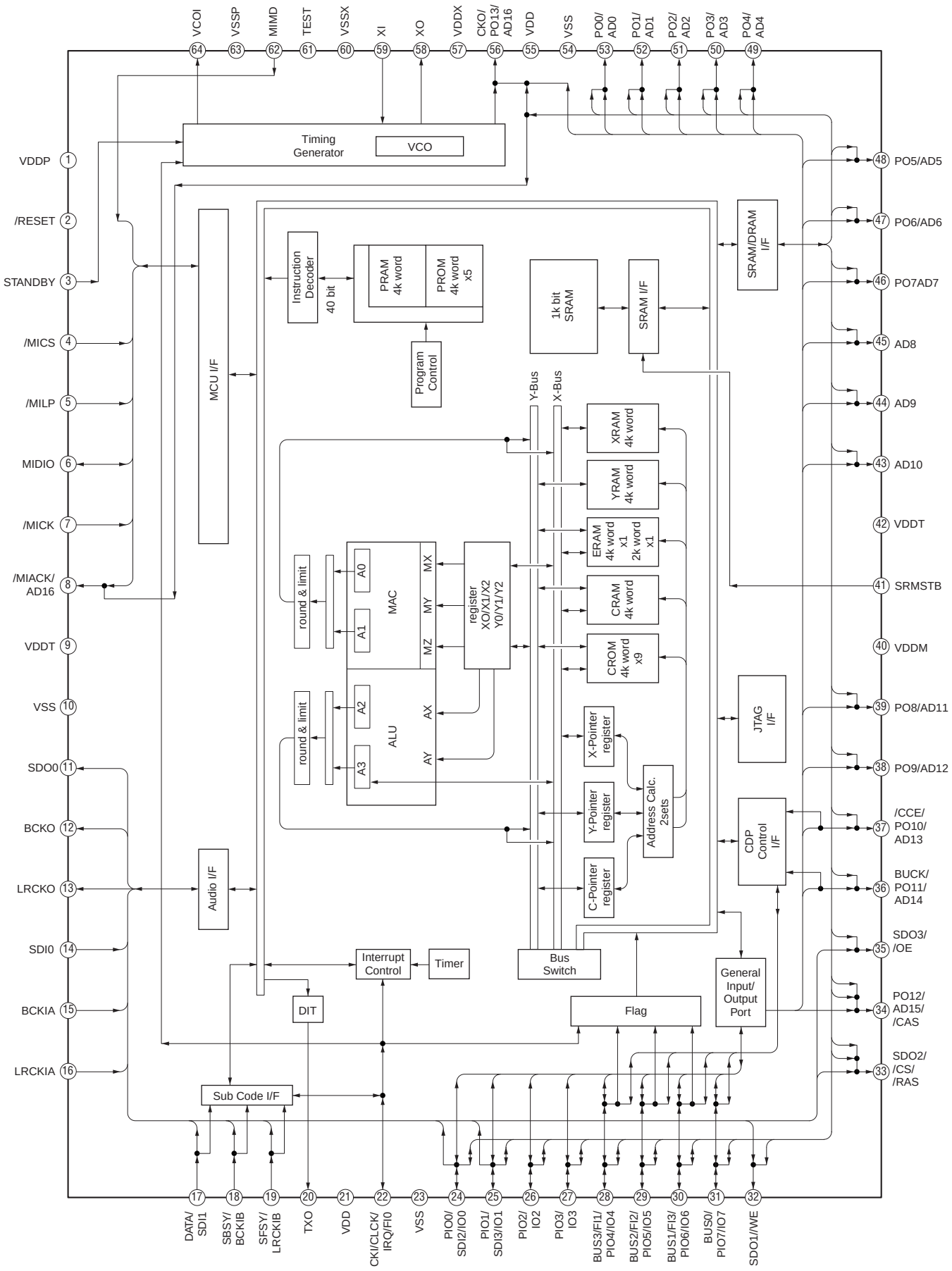
IC251 BA5947FM



IC303 BH15FB1WG

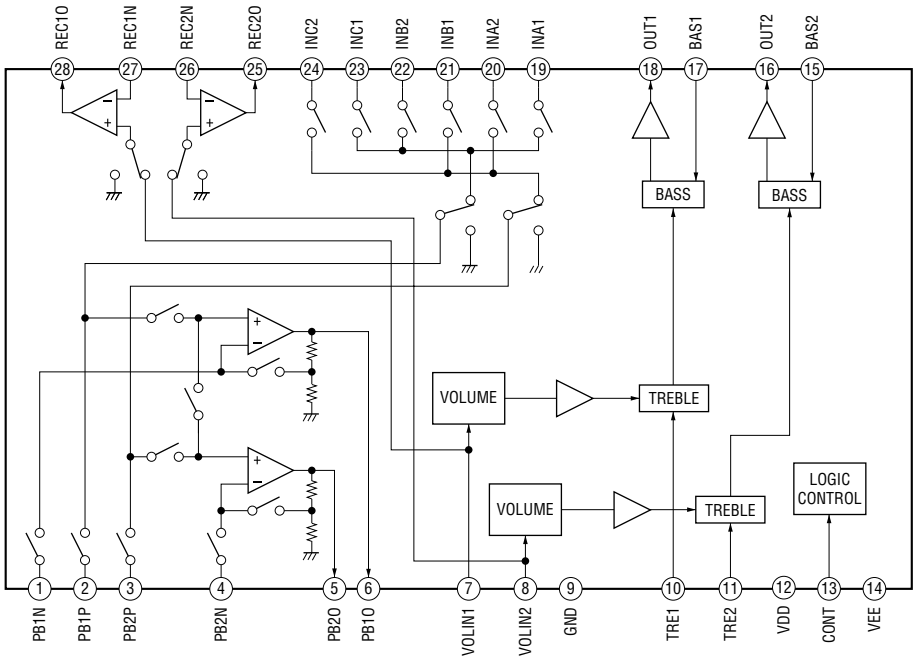


IC301 TC94A34FG-002



– MAIN Board –

IC302 BD3881FV



- **IC Pin Function Description**
- **CONTROL BOARD IC801 LC876980B-52T4-E (SYSTEM CONTROLLER)**

Pin No.	Pin Name	I/O	Description
1	MI-ACK	I	Acknowledge signal input from the MP3 decoder
2	MP3-RST	O	Reset signal output to the MP3 decoder
3	MP3-REQ	I	Request signal input from the MP3 decoder
4	MI-CS	O	Chip select signal output to the MP3 decoder
5	MI-LP	O	Serial data latch pulse output to the MP3 decoder
6	MP3-STB	O	Standby control signal output to the MP3 decoder
7	XTCN	O	Oscillation circuit control signal output to the CD DSP “H”: auto oscillation, “L”: oscillation off
8	X-RST	O	Reset signal output to the CD DSP
9	XLT	O	Serial data latch pulse output to the CD DSP
10	SCOR	I	Subcode sync (S0+S1) detection signal input from the CD DSP
11	RESET	I	Reset signal input from the reset switch “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
12	I-XT1	I	Sub system clock input terminal (32.768 kHz)
13	O-XT2	O	Sub system clock output terminal (32.768 kHz)
14	VSS1	—	Ground terminal
15	XIN	I	Main system clock input terminal (10 MHz)
16	XOUT	O	Main system clock output terminal (10 MHz)
17	VDD1	—	Power supply terminal (+3.2V)
18	I-POWER_MONITOR	I	Power monitor input terminal
19	MODEL DETECT	I	Model destination setting terminal
20	KEY1	I	Front panel key input terminal (A/D input)
21	AREA	I	Model destination setting terminal
22	VOL_ENCODER	I	Dial pulse input of the rotary encoder (for VOLUME control)
23	I_POWER_DOWN	I	Power down detection signal input terminal “L”: power down, normally : “H”
24	TA-SW	I	Cassette in/out detect switch signal input from the tape mechanism deck “L”: cassette in
25	RDS-DATA	I	RDS serial data input from the FM/AM tuner unit
26	RDS-CLK	I	RDS serial data transfer clock signal input from the FM/AM tuner unit
27	KEY0	I	Front panel key input terminal (A/D input)
28	F-DATA	O	Serial data output to the electrical volume
29	$\overline{\text{RMC\_IN}}$	I	Remote control signal input from the remote control receiver
30	NC VREF	—	Not used
31 to 42	G1 to G12	O	Grid drive signal output to the fluorescent indicator tube
43 to 45	S1 to S3	O	Segment drive signal output to the fluorescent indicator tube
46	VDD3	—	Power supply terminal (+3.1V)
47 to 50	S4 to S7	O	Segment drive signal output to the fluorescent indicator tube
51	VP	—	Power supply terminal (–29V)
52 to 60	S8 to S16	O	Segment drive signal output to the fluorescent indicator tube
61 to 65	NC	—	Not used
66	CD OPEN	I	CD lid open/close detection switch input terminal
67	TA END SW	I	END switch signal input from the tape mechanism deck
68	TA PLAY SW	I	PLAY switch signal input from the tape mechanism deck
69	NC	—	Not used
70	TU STEREO	I	FM stereo detection signal input from the FM/AM tuner unit
71	TU TUNED	I	Tuning detection signal input from the FM/AM tuner unit
72	VDD4	—	Power supply terminal (+3.1V)

Pin No.	Pin Name	I/O	Description
73	TU CE	O	Chip enable signal output to the FM/AM tuner unit
74	TU CLOCK	O	Serial data transfer clock signal output to the FM/AM tuner unit
75	TU DI	I	Serial data input from the FM/AM tuner unit
76	TU DO	O	Serial data output to the FM/AM tuner unit
77	TU MUTE	O	Tuner muting on/off control signal output to the FM/AM tuner unit
78	TA MO	O	Capstan/reel motor on/off control signal output terminal "H": motor on
79	TA RP	O	Recording/playback selection signal output terminal "H": playback mode, "L": recording mode
80	TA BIAS	O	Recording bias on/off selection signal output terminal "H": bias on, "L": bias off
81	TA SOL	O	Trigger plunger on/off control signal output terminal "H": plunger on
82	AMP-STBY	O	Standby control signal output to the power amplifier
83	AMP MUTE	O	Tuner muting on/off control signal output to the power amplifier
84	AU MUTE	O	Line muting on/off control signal output terminal
85	POWER ON	O	Power relay drive signal output terminal "H": on
86	NC	—	Not used
87	ST-BY LED	O	LED drive signal output terminal
88	DSG/I-BASS LED	O	LED drive signal output terminal
89	VSS2	—	Ground terminal
90	VDD2	—	Power supply terminal (+3.1V)
91	CD LED	—	Not used
92	TU LED	—	Not used
93	TA LED	—	Not used
94	CD ON	O	Power on/off control signal output for the CD mechanism section
95	CD DATA	O	Serial data output to the CD DSP
96	SENS	I	Internal status (SENSE) signal input from the CD DSP
97	CD-CLK	O	Serial data transfer clock signal output to the CD DSP
98	MI-DIO-O	O	Serial data output to the MP3 decoder
99	MI-DIO-I	I	Serial data input from the MP3 decoder
100	MI-CK	O	Serial data transfer clock signal output to the MP3 decoder

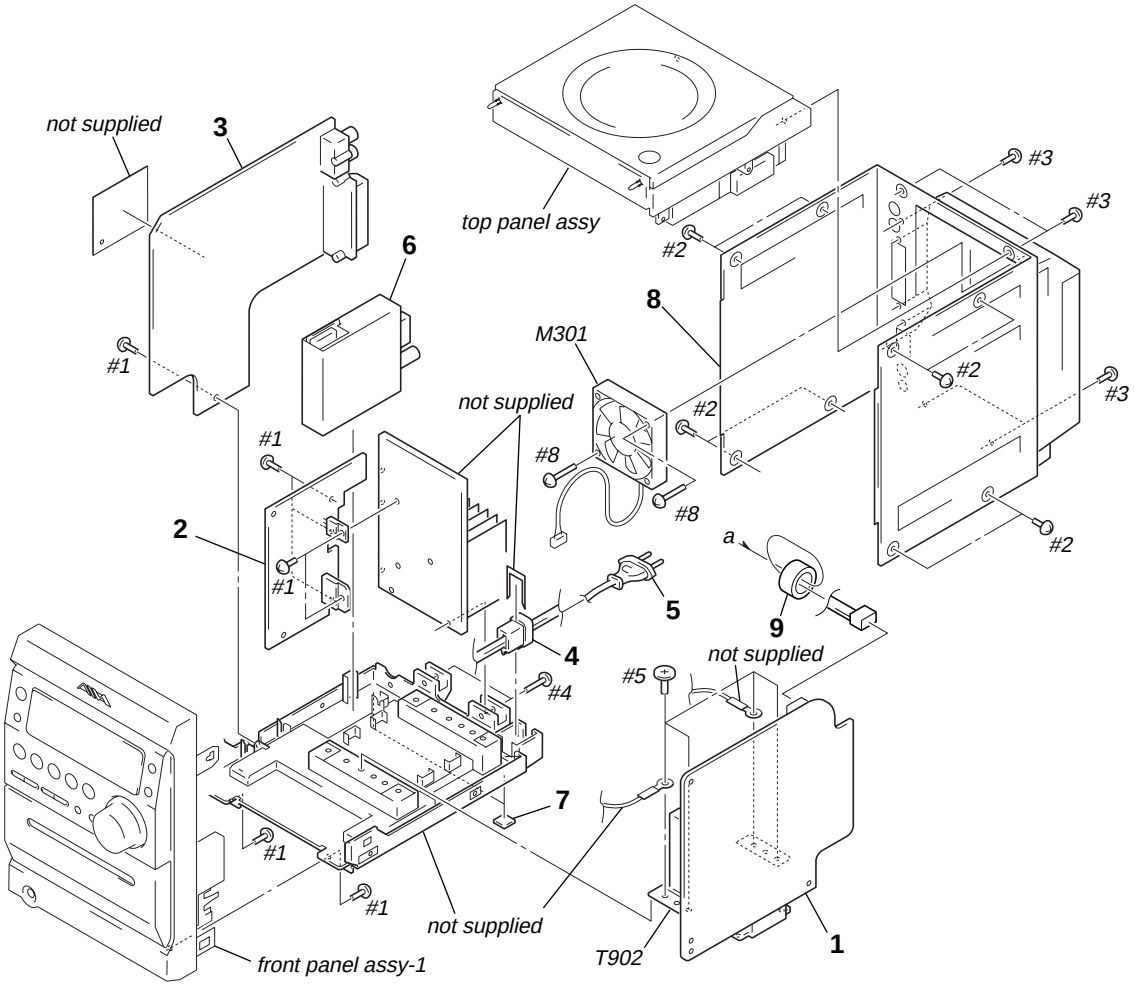
SECTION 8
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  AUS : Australian model
  AR : Argentine model
  E51 : Chilean and peruvian models
  KR : Korea model
  MX : Mexican model
  SP : Singapore model
  TW : Taiwan model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

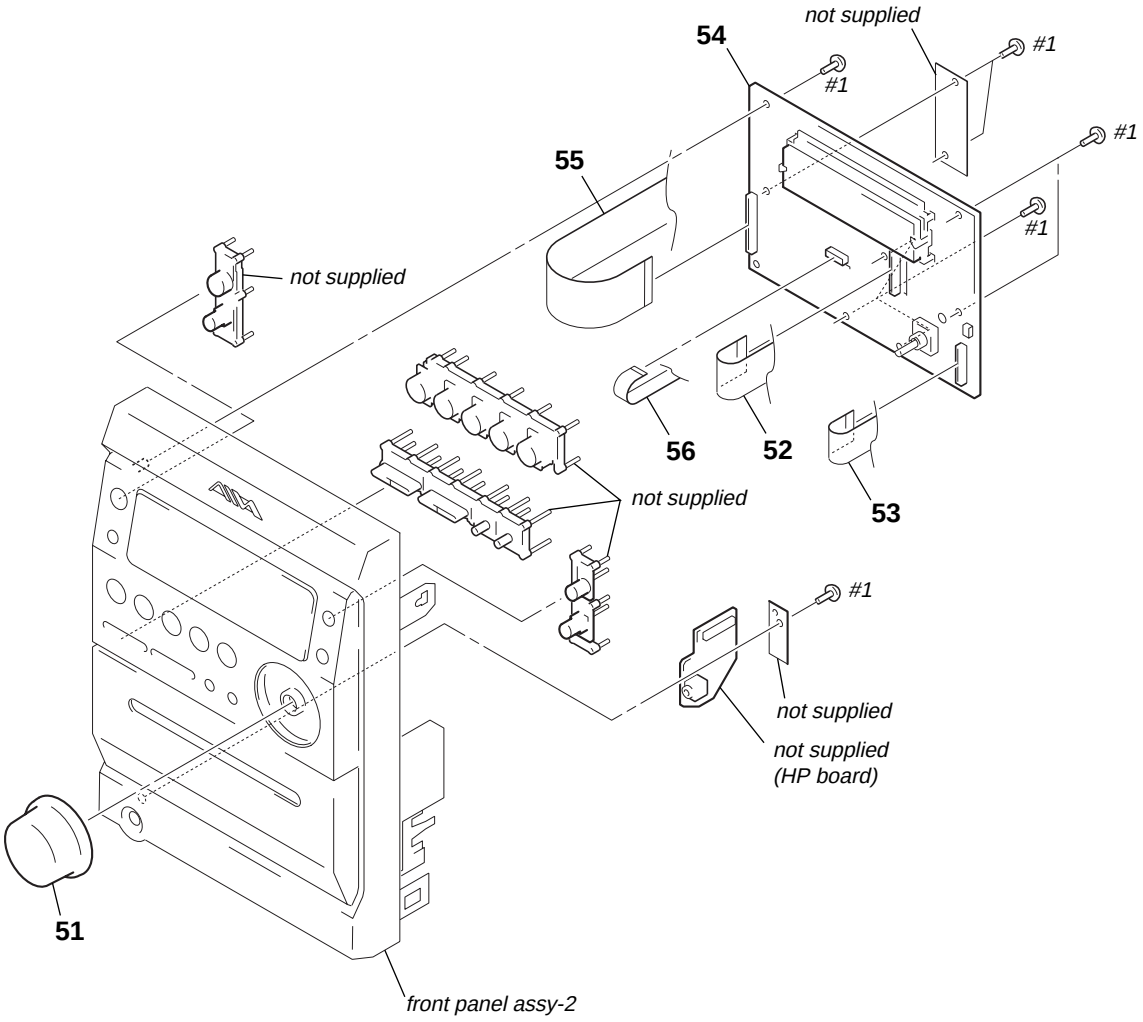
8-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remark
1	A-1059-097-A	POWER BOARD, COMPLETE (KR)	
1	A-4752-018-A	POWER BOARD, COMPLETE (SP, E51)	
1	A-4752-042-A	POWER BOARD, COMPLETE (AUS)	
2	A-4750-621-A	AMP BOARD, COMPLETE	
3	A-4750-619-A	MAIN BOARD, COMPLETE	
4		not supplied	
⚠5	1-696-848-12	CORD, POWER (AUS)	
⚠5	1-769-079-23	CORD, POWER (KR)	
⚠5	1-769-744-52	CORD, POWER (AEP, UK, MX, SP, E51)	
⚠5	1-783-940-73	CORD, POWER (AR)	
⚠5	1-827-597-41	CORD, POWER (TW)	
6	1-693-628-11	TUNER (FM/AM) (MX, SP, TW, AR, E51, AUS)	
6	1-693-629-11	TUNER (FM/AM) (AEP, UK, KR)	
7	4-247-752-01	RUBBER, FOOT	

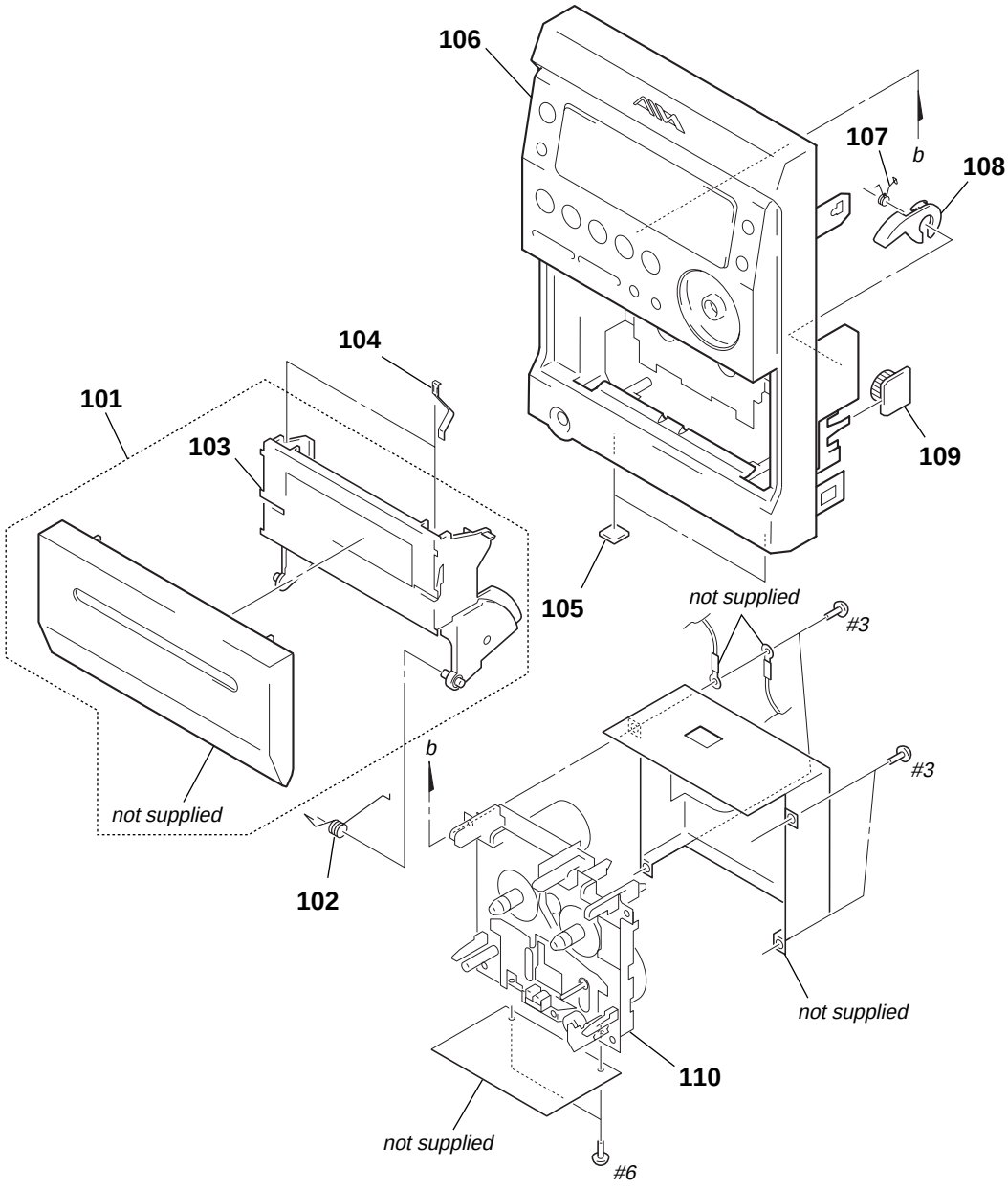
Ref. No.	Part No.	Description	Remark
8	4-253-221-41	CABINET, REAR	
9	1-469-636-11	CORE, FERRITE (ESD-R-25SD) (AEP, UK, KR)	
M301	1-787-103-11	FAN, DC	
⚠T902	1-443-273-11	TRANSFORMER, POWER (AEP, UK)	
⚠T902	1-443-304-11	TRANSFORMER, POWER (MX, TW, SP, AR, E51, AUS)	
⚠T902	1-443-364-11	TRANSFORMER, POWER (KR)	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#2	7-685-548-14	SCREW +BTP 3X12 TYPE2 N-S	
#3	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
#4	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S	
#5	7-685-659-79	SCREW +BVTP 4X8 TYPE2 IT-3	
#8		not supplied	

8-2. FRONT PANEL ASSY-1



Ref. No.	Part No.	Description	Remark
51	4-249-079-01	KNOB, VOL (RTRY VOL)	
52	1-757-791-11	WIRE (FLAT TYPE) (16 CORE)	
53	1-828-965-11	WIRE (FLAT TYPE) (11 CORE)	
54	A-4752-010-A	CONTROL BOARD, COMPLETE (MX)	
54	A-4750-613-A	CONTROL BOARD, COMPLETE (AEP, UK)	
54	A-4752-016-A	CONTROL BOARD, COMPLETE (AR, E51)	
54	A-4752-040-A	CONTROL BOARD (SP, TW, KR, AUS)	
55	1-773-220-11	WIRE (FLAT TYPE) (25 CORE)	
56	1-828-944-11	WIRE (FLAT TYPE) (7 CORE)	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	

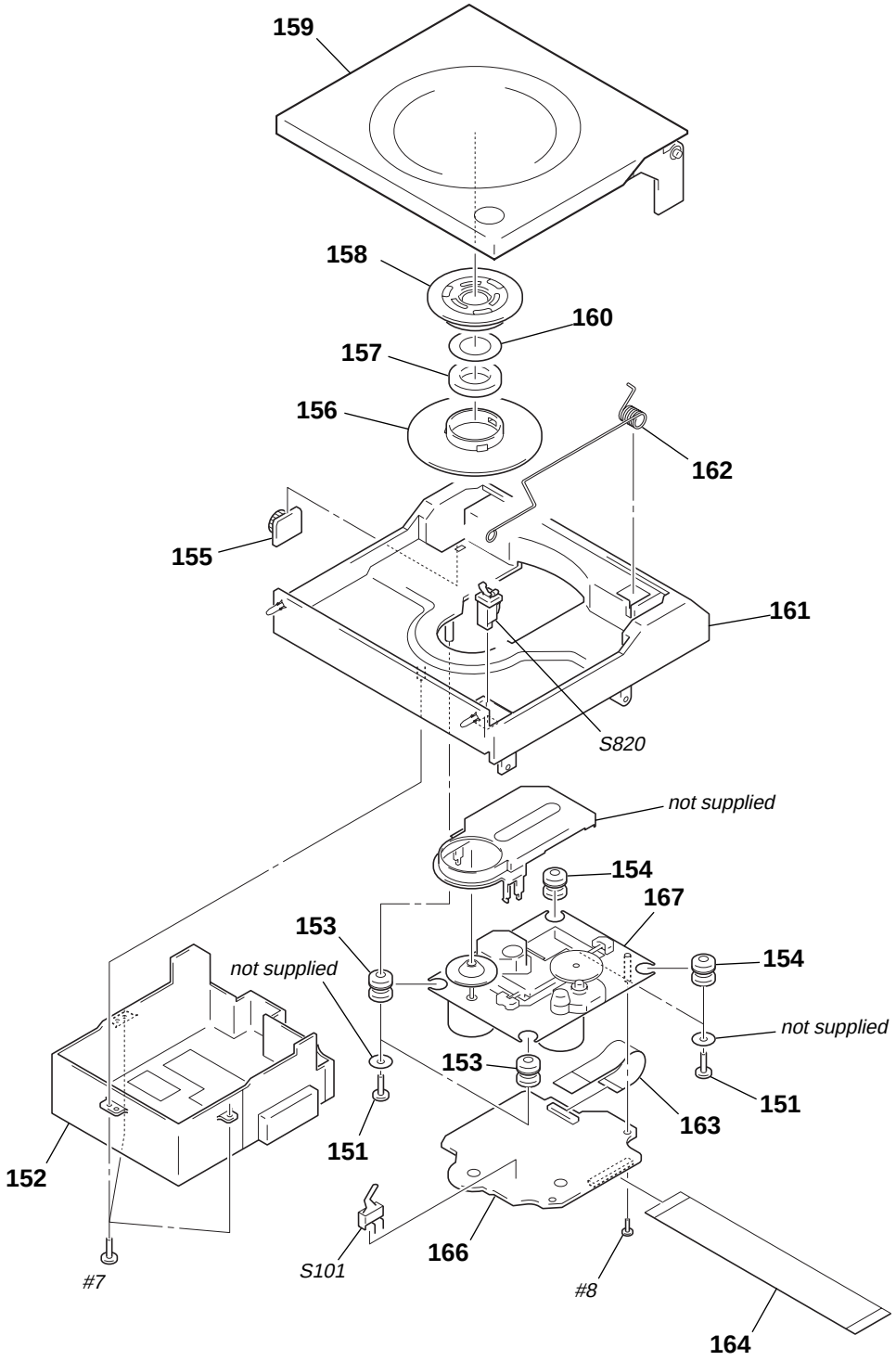
8-3. FRONT PANEL ASSY-2



Ref. No.	Part No.	Description	Remark
101	X-4956-356-1	LID, CASS ASSY (X)	
102	4-254-949-01	SPRING, CASSETTE	
103	4-245-018-01	HOLDER (CASSETTE)	
103	4-245-018-11	HOLDER (CASSETTE)	
104	4-238-631-01	TAPE SPRING	
105	4-247-752-01	RUBBER, FOOT	
106	X-4956-355-1	FRONT (PANEL) ASSY (X)	

Ref. No.	Part No.	Description	Remark
107	4-231-841-01	SPRING (HEART CAM-B)	
108	4-231-825-01	CAM (B), HEART	
109	4-242-318-01	OIL-DMPR, 70	
110	1-796-352-41	DECK, MECHANICAL (CMAL5Z220A)	
#3	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
#6	7-685-862-09	SCREW +BVTT 2.6X6 (S)	

8-4. TOP PANEL ASSY



Ref. No.	Part No.	Description	Remark
151		not supplied	
152	4-247-493-01	COVER, CD	
153	3-931-379-31	RUBBER, VIBRATION PROOF (GREEN)	
154	3-931-379-21	RUBBER, VIBRATION PROOF (RED)	
155	4-242-171-01	DAMPER 150 N	
156	4-246-193-01	HOLDER, CHUCK A	
157	4-249-238-01	MAGNET (18-30-5)	
158	4-246-192-01	BASE, CHUCK N	
159	4-246-195-21	LID, CD	
160	4-246-191-11	PLATE, MAGNET	

Ref. No.	Part No.	Description	Remark
161	4-246-194-21	CHASSIS, CD	
162	4-248-711-01	SPRING (CD)	
163	1-827-992-11	WIRE (FLAT TYPE) (16 CORE)	
164	1-824-048-12	WIRE (FLAT TYPE) (27 CORE) (EXCEPT AR)	
166	A-4751-434-A	CD BOARD, COMPLETE	
167	8-820-221-01	DEVICE, OPTICAL PICK-UP	(KSM-213EDP/C2NP)
S101	1-771-853-11	SWITCH, DETECTION	
#7	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	

SECTION 9
ELECTRICAL PARTS LIST

AMP **CD**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- Abbreviation
  AUS : Australian model
  AR : Argentine model
  E51 : Chilean and peruvian models
  KR : Korea model
  MX : Mexican model
  SP : Singapore model
  TW : Taiwan model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
	A-4750-621-A	AMP BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C397	1-126-947-11	ELECT	47uF	20%	35V
C398	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C501	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C502	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C503	1-126-967-11	ELECT	47uF	20%	50V
C504	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C505	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C506	1-126-967-11	ELECT	47uF	20%	50V
C509	1-126-949-11	ELECT	220uF	20%	35V
C510	1-126-949-11	ELECT	220uF	20%	35V
C511	1-136-171-00	MYLAR	0.33uF	5%	50V
C512	1-136-171-00	MYLAR	0.33uF	5%	50V
C513	1-136-171-00	MYLAR	0.33uF	5%	50V
C514	1-136-171-00	MYLAR	0.33uF	5%	50V
C515	1-126-964-11	ELECT	10uF	20%	50V
C516	1-126-964-11	ELECT	10uF	20%	50V
C517	1-162-306-11	CERAMIC	0.01uF	20%	16V
C522	1-130-495-00	MYLAR	0.1uF	5%	50V
C523	1-130-495-00	MYLAR	0.1uF	5%	50V
C528	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C529	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
		< CONNECTOR >			
CN307	1-564-507-11	PLUG, CONNECTOR 4P			
* CN308	1-564-512-11	PLUG, CONNECTOR 9P			
* CN310	1-564-518-11	PLUG, CONNECTOR 3P			
CN501	1-564-507-11	PLUG, CONNECTOR 4P			
		< IC >			
IC305	8-759-231-57	IC TA7810S			
IC501	8-759-333-24	IC LM1876TF			
		< COIL >			
L501		not supplied			
L502		not supplied			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R369		not supplied			
R501	1-216-821-11	METAL CHIP	1K	5%	1/10W
R502	1-216-238-91	RES-CHIP	47K	5%	1/8W
R503	1-216-821-11	METAL CHIP	1K	5%	1/10W
R504	1-216-238-91	RES-CHIP	47K	5%	1/8W
R504	1-249-437-11	CARBON	47K	5%	1/4W
R505	1-216-841-11	METAL CHIP	47K	5%	1/10W
R506	1-216-821-11	METAL CHIP	1K	5%	1/10W
R507	1-216-809-11	METAL CHIP	100	5%	1/10W
R508	1-216-821-11	METAL CHIP	1K	5%	1/10W
R509	1-216-238-91	RES-CHIP	47K	5%	1/8W
R511	1-216-833-11	METAL CHIP	10K	5%	1/10W
R512	1-216-839-11	METAL CHIP	33K	5%	1/10W
R514	1-216-837-11	METAL CHIP	22K	5%	1/10W
R515	1-260-296-11	CARBON	2.2	5%	1/2W
R516	1-260-296-11	CARBON	2.2	5%	1/2W
R517	1-216-842-11	METAL CHIP	56K	5%	1/10W
R518	1-216-841-11	METAL CHIP	47K	5%	1/10W
R519	1-249-408-11	CARBON	180	5%	1/4W
R520	1-249-408-11	CARBON	180	5%	1/4W
**********					
	A-4751-434-A	CD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C10	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C11	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C14	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C15	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C16	1-115-156-11	CERAMIC CHIP	1uF		10V
C17	1-126-246-11	ELECT CHIP	220uF	20%	4V
C18	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C111	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C112	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C113	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C114	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C115	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C116	1-128-995-21	ELECT CHIP	100uF	20%	10V
C122	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C123	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C124	1-162-959-11	CERAMIC CHIP	330PF	5%	50V

Ref. No.	Part No.	Description			Remark
C125	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C131	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C132	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C133	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C134	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C141	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C142	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C143	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C151	1-128-995-21	ELECT CHIP	100uF	20%	10V
C161	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C162	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C163	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C171	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C172	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C174	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C181	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C182	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C183	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C184	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C185	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C186	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C194	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C195	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C196	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C201	1-128-995-21	ELECT CHIP	100uF	20%	10V
C203	1-128-995-21	ELECT CHIP	100uF	20%	10V
C209	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C210	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C211	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C212	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C213	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C251	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C252	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C255	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C257	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C258	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C259	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C260	1-128-394-11	ELECT CHIP	220uF	20%	10V
C302	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C303	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C305	1-126-246-11	ELECT CHIP	220uF	20%	4V
C306	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C307	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C308	1-126-208-21	ELECT CHIP	47uF	20%	4V
C309	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C310	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C311	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C312	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C313	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C314	1-126-208-21	ELECT CHIP	47uF	20%	4V
C315	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C316	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C317	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C318	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C320	1-216-864-11	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-770-425-11	CONNECTOR, FFC/FPC 16P			
CN201	1-818-350-11	CONNECTOR (FFC) 27P			
		< FERRITE BEAD >			
FB301	1-500-445-21	FERRITE, EMI (SMD) (2012)			
		< IC >			
IC101	8-752-425-12	IC CXD3059AR			
IC251	6-705-808-01	IC BA5947FM			
IC301	6-705-365-01	IC TC94A34FG-002			
IC303	6-705-807-01	IC BH15FB1WG			
		< TRANSISTOR >			
Q10	6-550-363-01	TRANSISTOR	2SB1690KT146		
		< RESISTOR >			
R10	1-216-791-11	METAL CHIP	3.3	5%	1/10W
R11	1-216-864-11	SHORT CHIP	0		
R12	1-216-845-11	METAL CHIP	100K	5%	1/10W
R13	1-218-446-11	METAL CHIP	1	5%	1/10W
R111	1-216-821-11	METAL CHIP	1K	5%	1/10W
R112	1-216-835-11	METAL CHIP	15K	5%	1/10W
R113	1-216-821-11	METAL CHIP	1K	5%	1/10W
R114	1-216-835-11	METAL CHIP	15K	5%	1/10W
R121	1-216-835-11	METAL CHIP	15K	5%	1/10W
R131	1-216-857-11	METAL CHIP	1M	5%	1/10W
R132	1-216-833-11	METAL CHIP	10K	5%	1/10W
R133	1-216-848-11	METAL CHIP	180K	5%	1/10W
R141	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R142	1-216-821-11	METAL CHIP	1K	5%	1/10W
R143	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R151	1-216-864-11	SHORT CHIP	0		
R161	1-216-809-11	METAL CHIP	100	5%	1/10W
R162	1-216-841-11	METAL CHIP	47K	5%	1/10W
R163	1-216-809-11	METAL CHIP	100	5%	1/10W
R165	1-216-864-11	SHORT CHIP	0		
R171	1-216-817-11	METAL CHIP	470	5%	1/10W
R172	1-216-857-11	METAL CHIP	1M	5%	1/10W
R173	1-216-295-91	SHORT CHIP	0		
R181	1-216-809-11	METAL CHIP	100	5%	1/10W
R182	1-216-809-11	METAL CHIP	100	5%	1/10W
R191	1-216-864-11	SHORT CHIP	0		
R201	1-500-445-21	FERRITE, EMI (SMD) (2012)			
R203	1-216-864-11	SHORT CHIP	0		
R204	1-500-445-21	FERRITE, EMI (SMD) (2012)			
R205	1-216-864-11	SHORT CHIP	0		
R251	1-216-833-11	METAL CHIP	10K	5%	1/10W
R252	1-216-837-11	METAL CHIP	22K	5%	1/10W
R253	1-216-833-11	METAL CHIP	10K	5%	1/10W
R301	1-216-845-11	METAL CHIP	100K	5%	1/10W
R302	1-216-833-11	METAL CHIP	10K	5%	1/10W
R303	1-216-845-11	METAL CHIP	100K	5%	1/10W
R305	1-216-845-11	METAL CHIP	100K	5%	1/10W
R306	1-216-864-11	SHORT CHIP	0		
R307	1-216-833-11	METAL CHIP	10K	5%	1/10W

CD CONTROL

Ref. No.	Part No.	Description			Remark
R313	1-216-813-11	METAL CHIP	220	5%	1/10W
R351	1-216-809-11	METAL CHIP	100	5%	1/10W
R352	1-216-809-11	METAL CHIP	100	5%	1/10W
R353	1-216-809-11	METAL CHIP	100	5%	1/10W
R354	1-216-809-11	METAL CHIP	100	5%	1/10W
R401	1-216-809-11	METAL CHIP	100	5%	1/10W
R402	1-216-809-11	METAL CHIP	100	5%	1/10W
R403	1-216-809-11	METAL CHIP	100	5%	1/10W
R404	1-216-809-11	METAL CHIP	100	5%	1/10W
R405	1-216-809-11	METAL CHIP	100	5%	1/10W
R406	1-216-809-11	METAL CHIP	100	5%	1/10W
R407	1-216-809-11	METAL CHIP	100	5%	1/10W
R408	1-216-809-11	METAL CHIP	100	5%	1/10W
R409	1-216-809-11	METAL CHIP	100	5%	1/10W
R410	1-216-809-11	METAL CHIP	100	5%	1/10W
R411	1-216-809-11	METAL CHIP	100	5%	1/10W
R412	1-216-809-11	METAL CHIP	100	5%	1/10W
R419	1-216-809-11	METAL CHIP	100	5%	1/10W
		< VIBRATOR >			
X171	1-767-408-21	VIBRATOR, CRYSTAL (16.9344 MHz)			
**********					
	A-4750-613-A	CONTROL BOARD, COMPLETE (AEP, UK)			
	A-4752-010-A	CONTROL BOARD, COMPLETE (MX)			
	A-4752-016-A	CONTROL BOARD, COMPLETE (AR, E51)			
	A-4752-040-A	CONTROL BOARD, COMPLETE (SP, TW, KR, AUS)			
		**********			
	4-249-151-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C801	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C802	1-162-975-11	CERAMIC CHIP	24PF	5%	50V
C803	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C804	1-126-933-11	ELECT	100uF	20%	16V
C805	1-124-234-00	ELECT	22uF	20%	16V
C806	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C807	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C808	1-104-658-91	ELECT	100uF	20%	10V
C809	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C810	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C811	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C813	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C814	1-124-584-00	ELECT	100uF	20%	6.3V
C817		not supplied			
C820	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C821	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C822	1-124-234-00	ELECT	22uF	20%	16V
C828	1-104-655-91	ELECT	470uF	20%	6.3V
C829	1-126-947-11	ELECT	47uF	20%	35V
C830	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C831	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C833	1-126-923-91	ELECT	220uF	20%	10V
C839	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C840	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C841	1-162-960-11	CERAMIC CHIP	220PF	10%	50V

Ref. No.	Part No.	Description			Remark
C842	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN804	1-564-505-11	PLUG, CONNECTOR 2P			
* CNB302	1-784-785-11	CONNECTOR, FFC 24P			
CNB303		not supplied			
CNB801	1-568-826-11	CONNECTOR, FFC 7P			
CNB802	1-568-830-11	CONNECTOR, FFC 11P			
		< DIODE >			
D803	8-719-991-33	DIODE 1SS133T-77			
D807	8-719-991-33	DIODE 1SS133T-77			
D808	8-719-988-61	DIODE 1SS355TE-17			
D809	8-719-991-33	DIODE 1SS133T-77			
D810	8-719-991-33	DIODE 1SS133T-77			
D811	8-719-062-12	DIODE SEL2215S-CD-TP (AEP, UK, MX, AR, E51)			
D811	8-719-083-10	DIODE SLI-343DUT32 (SP, TW, KR, AUS)			
D812	8-719-991-33	DIODE 1SS133T-77			
D813	8-719-991-33	DIODE 1SS133T-77			
D880	8-719-109-85	DIODE RD5.1ESB2			
		< FILTER >			
FL801	1-518-965-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC801	6-804-040-01	IC LC876980B-52T4-E			
IC802	6-600-174-01	IC RPM7240-H4 (R)			
IC803	8-759-532-64	IC M62703SL-TP			
		< SHORT >			
JR802		not supplied			
JR803		not supplied			
JR804		not supplied			
JR805	1-216-295-91	SHORT CHIP	0		
JR807	1-216-295-91	SHORT CHIP	0		
JR808	1-216-295-91	SHORT CHIP	0		
JR809		not supplied			
JR810		not supplied			
JR811		not supplied			
JR813	1-216-295-91	SHORT CHIP	0		
JR815	1-216-295-91	SHORT CHIP	0		
JR817	1-216-295-91	SHORT CHIP	0		
JR818	1-216-295-91	SHORT CHIP	0		
JR819	1-216-295-91	SHORT CHIP	0		
JR863	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< COIL >			
L801	1-410-509-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q801	8-729-034-51	TRANSISTOR	KTC3875		
Q802	8-729-037-13	TRANSISTOR	KTA1271Y		
Q803	8-729-054-16	TRANSISTOR	KRC402-RTK		
Q804	8-729-037-13	TRANSISTOR	KTA1271Y		
Q805	8-729-054-16	TRANSISTOR	KRC402-RTK		
Q807	8-729-054-16	TRANSISTOR	KRC402-RTK		
Q808	8-729-054-16	TRANSISTOR	KRC402-RTK		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R801	1-216-841-11	METAL CHIP	47K	5%	1/10W
R802	1-216-821-11	METAL CHIP	1K	5%	1/10W
R803	1-216-809-11	METAL CHIP	100	5%	1/10W
R804	1-216-864-11	SHORT CHIP	0		
R805	1-216-841-11	METAL CHIP	47K	5%	1/10W
R806	1-216-821-11	METAL CHIP	1K	5%	1/10W
R807	1-216-809-11	METAL CHIP	100	5%	1/10W
R808	1-216-809-11	METAL CHIP	100	5%	1/10W
R809	1-216-809-11	METAL CHIP	100	5%	1/10W
R810	1-219-570-11	METAL CHIP	10M	5%	1/10W
R811	1-216-837-11	METAL CHIP	22K	5%	1/10W
R812	1-216-841-11	METAL CHIP	47K	5%	1/10W
R813	1-216-809-11	METAL CHIP	100	5%	1/10W
R814	1-216-852-11	METAL CHIP	390K	5%	1/10W
R815	1-216-845-11	METAL CHIP	100K	5%	1/10W
R816	1-216-809-11	METAL CHIP	100	5%	1/10W
R818	1-216-842-11	METAL CHIP	56K	5%	1/10W
R819	1-216-821-11	METAL CHIP	1K	5%	1/10W
R820	1-216-849-11	METAL CHIP	220K	5%	1/10W
R821	1-216-821-11	METAL CHIP	1K	5%	1/10W
R822	1-216-833-11	METAL CHIP	10K	5%	1/10W
R823	1-216-833-11	METAL CHIP	10K	5%	1/10W
R824	1-216-809-11	METAL CHIP	100	5%	1/10W
R825	1-216-833-11	METAL CHIP	10K	5%	1/10W
R826	1-216-809-11	METAL CHIP	100	5%	1/10W
R827	1-216-809-11	METAL CHIP	100	5%	1/10W
R828	1-216-821-11	METAL CHIP	1K	5%	1/10W
R829	1-216-845-11	METAL CHIP	100K	5%	1/10W
R830	1-216-845-11	METAL CHIP	100K	5%	1/10W
R831	1-216-841-11	METAL CHIP	47K	5%	1/10W
R834	1-216-817-11	METAL CHIP	470	5%	1/10W
R835	1-216-809-11	METAL CHIP	100	5%	1/10W
R837	1-216-845-11	METAL CHIP	100K	5%	1/10W
R838	1-216-845-11	METAL CHIP	100K	5%	1/10W
R839	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R840	1-216-813-11	METAL CHIP	220	5%	1/10W
R841	1-216-815-11	METAL CHIP	330	5%	1/10W
R842	1-216-817-11	METAL CHIP	470	5%	1/10W
R843	1-216-819-11	METAL CHIP	680	5%	1/10W
R844	1-216-821-11	METAL CHIP	1K	5%	1/10W
R845	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R846	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R847	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R848	1-216-813-11	METAL CHIP	220	5%	1/10W
R849	1-216-815-11	METAL CHIP	330	5%	1/10W
R850	1-216-817-11	METAL CHIP	470	5%	1/10W
R851	1-216-819-11	METAL CHIP	680	5%	1/10W
R852	1-216-821-11	METAL CHIP	1K	5%	1/10W
R853	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R854	1-216-833-11	METAL CHIP	10K	5%	1/10W
R855	1-216-837-11	METAL CHIP	22K	5%	1/10W
R856	1-216-833-11	METAL CHIP	10K	5%	1/10W
R857	1-216-809-11	METAL CHIP	100	5%	1/10W
R859	1-216-809-11	METAL CHIP	100	5%	1/10W
R860	1-216-833-11	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R861	1-216-833-11	METAL CHIP	10K	5%	1/10W
R862	1-216-845-11	METAL CHIP	100K	5%	1/10W
R863	1-216-833-11	METAL CHIP	10K	5%	1/10W
R864	1-216-833-11	METAL CHIP	10K	5%	1/10W
R865	1-216-833-11	METAL CHIP	10K	5%	1/10W
R866	1-216-833-11	METAL CHIP	10K	5%	1/10W
R867	1-216-821-11	METAL CHIP	1K	5%	1/10W (AR, E51)
R867	1-216-825-11	METAL CHIP	2.2K	5%	1/10W (MX)
R867	1-216-864-11	SHORT CHIP	0 (AEP, UK)		
R868	1-216-829-11	METAL CHIP	4.7K	5%	1/10W (MX, AR, E51)
R868	1-216-864-11	SHORT CHIP	0 (SP, TW, KR, AUS)		
R869	1-216-809-11	METAL CHIP	100	5%	1/10W
R872	1-216-845-11	METAL CHIP	100K	5%	1/10W
R874	1-216-833-11	METAL CHIP	10K	5%	1/10W
R875	1-216-813-11	METAL CHIP	220	5%	1/10W
R876	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R877	1-216-841-11	METAL CHIP	47K	5%	1/10W
R878	1-216-841-11	METAL CHIP	47K	5%	1/10W
R879	1-216-837-11	METAL CHIP	22K	5%	1/10W
R880	1-216-833-11	METAL CHIP	10K	5%	1/10W
R881	1-216-809-11	METAL CHIP	100	5%	1/10W
R882	1-216-833-11	METAL CHIP	10K	5%	1/10W
R883	1-216-809-11	METAL CHIP	100	5%	1/10W
R884	1-216-809-11	METAL CHIP	100	5%	1/10W
R885	1-216-809-11	METAL CHIP	100	5%	1/10W
R887	1-216-845-11	METAL CHIP	100K	5%	1/10W
R888	1-216-845-11	METAL CHIP	100K	5%	1/10W
R889	1-216-845-11	METAL CHIP	100K	5%	1/10W
R890	1-216-845-11	METAL CHIP	100K	5%	1/10W
R892	1-216-824-11	METAL CHIP	1.8K	5%	1/10W (UK)
R893	1-216-845-11	METAL CHIP	100K	5%	1/10W
R894	1-216-809-11	METAL CHIP	100	5%	1/10W
R895	1-216-809-11	METAL CHIP	100	5%	1/10W
R896	1-216-839-11	METAL CHIP	33K	5%	1/10W
R897	1-216-809-11	METAL CHIP	100	5%	1/10W
R898	1-216-809-11	METAL CHIP	100	5%	1/10W
R899	1-216-833-11	METAL CHIP	10K	5%	1/10W
R900	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R901	1-216-809-11	METAL CHIP	100	5%	1/10W
R907	1-216-295-91	SHORT CHIP	0 (AEP, UK)		
R910	1-216-864-11	SHORT CHIP	0		
RG01	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG02	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG03	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG04	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG05	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG06	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG07	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG08	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG09	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG10	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG11	1-216-845-11	METAL CHIP	100K	5%	1/10W
RG12	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP01	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP02	1-216-845-11	METAL CHIP	100K	5%	1/10W

CONTROL | HP | MAIN

Ref. No.	Part No.	Description			Remark
RP03	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP04	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP05	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP06	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP07	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP08	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP09	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP10	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP11	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP12	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP13	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP14	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP15	1-216-845-11	METAL CHIP	100K	5%	1/10W
RP16	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< VARIABLE RESISTOR >			
RV801	1-477-823-11	ENCODER, ROTARY			
		< SWITCH >			
S801	1-771-410-21	SWITCH, TACTILE (■)			
S802	1-771-410-21	SWITCH, TACTILE (ALBUM +)			
S803	1-771-410-21	SWITCH, TACTILE (ALBUM –)			
S804	1-771-410-21	SWITCH, TACTILE (TUNING + ▶▶▶▶I)			
S805	1-771-410-21	SWITCH, TACTILE (TUNING – I◀◀ ◀◀)			
S806	1-771-410-21	SWITCH, TACTILE (DISPLAY)			
S807	1-771-410-21	SWITCH, TACTILE (i-Bass)			
S808	1-771-410-21	SWITCH, TACTILE (BASS/TREBLE)			
S809	1-771-410-21	SWITCH, TACTILE (I/⏻)			
S810	1-771-410-21	SWITCH, TACTILE (TAPE ►)			
S811	1-771-410-21	SWITCH, TACTILE (CD ►II)			
S812	1-771-410-21	SWITCH, TACTILE (TUNER/BAND)			
S813	1-771-410-21	SWITCH, TACTILE (SYNCHRO REC)			
S814	1-771-410-21	SWITCH, TACTILE (● REC PAUSE/START)			
S815	1-771-410-21	SWITCH, TACTILE (PLAY MODE/TUNING MODE)			
		< VIBRATOR >			
X801	1-760-252-12	VIBRATOR, CRYSTAL (32.768 kHz)			
X802	1-795-004-21	VIBRATOR, CERAMIC (10 MHz)			
**********					
		HP BOARD			
		*********			
		< CAPACITOR >			
C520	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C521	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C525	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C526	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
		< CONNECTOR >			
CNB501		not supplied			
		< DIODE >			
D501	8-719-991-33	DIODE 1SS133T-77			
D502	8-719-991-33	DIODE 1SS133T-77			

Ref. No.	Part No.	Description			Remark
		< FERRITE BEAD >			
FB501	1-410-396-41	FERRITE	0.45uH		
		< JACK >			
J301	1-815-325-11	JACK (PHONES)			
		< RESISTOR >			
R525	1-249-407-11	CARBON	150	5%	1/4W
R526	1-249-407-11	CARBON	150	5%	1/4W
**********					
	A-4750-619-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C102	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C103	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C104	1-126-947-11	ELECT	47uF	20%	35V
C106	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C107	1-126-961-11	ELECT	2.2uF	20%	50V
C108	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C109	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C110	1-164-218-11	CERAMIC CHIP	180PF	5%	50V
C111	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C112	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C113	1-126-957-11	ELECT	0.22uF	20%	50V
C114	1-126-959-11	ELECT	0.47uF	20%	50V
C115	1-130-497-00	MYLAR	0.15uF	5%	50V
C116	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C117	1-164-730-11	CERAMIC CHIP	0.0012uF	10%	50V
C118	1-164-373-11	CERAMIC CHIP	0.033uF		25V
C119	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C127	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C132	1-126-963-11	ELECT	4.7uF	20%	50V
C133	1-130-492-11	MYLAR	0.056uF	5%	50V
C134	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C136	1-126-964-11	ELECT	10uF	20%	50V
C137	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C201	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C202	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C203	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C204	1-126-947-11	ELECT	47uF	20%	35V
C206	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C207	1-126-961-11	ELECT	2.2uF	20%	50V
C208	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C209	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C210	1-164-218-11	CERAMIC CHIP	180PF	5%	50V
C211	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C212	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C213	1-126-957-11	ELECT	0.22uF	20%	50V
C214	1-126-959-11	ELECT	0.47uF	20%	50V
C215	1-130-497-00	MYLAR	0.15uF	5%	50V
C216	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C217	1-164-730-11	CERAMIC CHIP	0.0012uF	10%	50V
C218	1-164-373-11	CERAMIC CHIP	0.033uF		25V

MAIN

Ref. No.	Part No.	Description			Remark
C219	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C227	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C232	1-126-963-11	ELECT	4.7uF	20%	50V
C233	1-130-492-11	MYLAR	0.056uF	5%	50V
C234	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C236	1-126-964-11	ELECT	10uF	20%	50V
C237	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C301	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C302	1-126-923-91	ELECT	220uF	20%	10V
C305	1-126-923-91	ELECT	220uF	20%	10V
C309	1-126-767-11	ELECT	1000uF	20%	16V
C312	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C313	1-126-933-11	ELECT	100uF	20%	16V
C314	1-136-967-11	FILM	0.012uF	5%	100V
C319	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C320	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C324	1-126-934-11	ELECT	220uF	20%	16V
C326	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C327	1-126-947-11	ELECT	47uF	20%	35V
C328	1-126-933-11	ELECT	100uF	20%	16V
C329	1-126-933-11	ELECT	100uF	20%	16V
C330	1-126-923-91	ELECT	220uF	20%	10V
C331	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C332	1-126-923-91	ELECT	220uF	20%	10V
C335	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C336	1-126-965-91	ELECT	22uF	20%	50V
C337	1-126-965-91	ELECT	22uF	20%	50V
C338	1-104-658-91	ELECT	100uF	20%	10V
C339	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C340	1-165-621-91	CERAMIC CHIP	0.1uF		50V
C341	1-165-621-91	CERAMIC CHIP	0.1uF		50V
C345	1-126-964-11	ELECT	10uF	20%	50V
C346	1-126-768-11	ELECT	2200uF	20%	16V
C347	1-165-621-91	CERAMIC CHIP	0.1uF		50V
C350	1-126-964-11	ELECT	10uF	20%	50V
C351	1-126-947-11	ELECT	47uF	20%	35V
C352	1-126-953-11	ELECT	2200uF	20%	35V
C353	1-126-953-11	ELECT	2200uF	20%	35V
C354	1-126-961-11	ELECT	2.2uF	20%	50V
C355	1-130-485-00	MYLAR	0.015uF	5%	50V
C356	1-130-481-00	MYLAR	0.0068uF	5%	50V
C357	1-130-481-00	MYLAR	0.0068uF	5%	50V
C358	1-130-486-00	MYLAR	0.018uF	5%	50V
C360	1-126-964-11	ELECT	10uF	20%	50V
C361	1-126-947-11	ELECT	47uF	20%	35V
C362	1-126-964-11	ELECT	10uF	20%	50V
C363		not supplied			
C364	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C384	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C390	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C391	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C393	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C394	1-164-159-21	CERAMIC	0.1uF		50V
C395	1-126-933-11	ELECT	100uF	20%	16V
C396	1-126-923-91	ELECT	220uF	20%	10V
C399	1-126-947-11	ELECT	47uF	20%	35V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN301	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
* CN302	1-784-785-11	CONNECTOR, FFC 24P	
CN303	1-784-777-11	CONNECTOR, FFC 16P	
CN305	1-784-835-21	CONNECTOR, FFC (LIF (NON-ZIF)) 27P	
CN501B	1-564-507-11	PLUG, CONNECTOR 4P	
CNB307	1-564-507-11	PLUG, CONNECTOR 4P	
* CNB308	1-564-512-11	PLUG, CONNECTOR 9P	
CNB903		not supplied	
CNB903A		not supplied	
CNB903B		not supplied	
		< DIODE >	
D301	8-719-991-33	DIODE 1SS133T-77	
D302	8-719-991-33	DIODE 1SS133T-77	
D303	8-719-109-72	DIODE RD3.9ESB2	
D304	8-719-109-66	DIODE RD3.3ESB2	
D305	8-719-056-78	DIODE UDZ-TE-17-4.3B	
D306	8-719-056-78	DIODE UDZ-TE-17-4.3B	
D307	8-719-991-33	DIODE 1SS133T-77	
D308	8-719-991-33	DIODE 1SS133T-77	
D309	8-719-991-33	DIODE 1SS133T-77	
D310	8-719-109-72	DIODE RD3.9ESB2	
D311	8-719-109-66	DIODE RD3.3ESB2	
D312	8-719-063-79	DIODE 1N4002B	
D313	8-719-063-79	DIODE 1N4002B	
D317	8-719-991-33	DIODE 1SS133T-77	
D318	8-719-982-27	DIODE MTZJ-33C	
D319	8-719-991-33	DIODE 1SS133T-77	
D320	8-719-063-79	DIODE 1N4002B	
D386	8-719-991-33	DIODE 1SS133T-77	
D387	8-719-991-33	DIODE 1SS133T-77	
D388	8-719-991-33	DIODE 1SS133T-77	
D389	8-719-991-33	DIODE 1SS133T-77	
D390	8-719-109-85	DIODE RD5.1ESB2	
D392	8-719-109-54	DIODE RD2.2ESB2	
D393	8-719-991-33	DIODE 1SS133T-77	
D396	8-719-991-33	DIODE 1SS133T-77	
		< FERRITE BEAD >	
FB301	1-410-396-41	FERRITE 0.45uH	
FB302	1-410-396-41	FERRITE 0.45uH	
		< IC >	
IC302	6-702-895-01	IC BD3881FV	
		< JACK >	
J302	1-536-708-81	TERMINAL BOARD, PUSH (4P) (SPEAKER IMPEDANCE USE 6-16Ω)	
* J303	1-750-178-31	JACK, PIN 2P (MD)	
		< SHORT >	
JR101	1-216-864-11	SHORT CHIP 0	
JR201	1-216-864-11	SHORT CHIP 0	
JR302	1-216-296-11	SHORT CHIP 0	
JR303	1-216-296-11	SHORT CHIP 0	

MAIN

Ref. No.	Part No.	Description			Remark
		< JUMPER RESISTOR >			
JW323	1-410-509-11	INDUCTOR	10uH		
		< COIL >			
L101	1-422-009-13	COIL, AIR-CORE			
L201	1-422-009-13	COIL, AIR-CORE			
		< TRANSISTOR >			
Q311	8-729-037-13	TRANSISTOR	KTA1271Y		
Q312	8-729-212-02	TRANSISTOR	2SC2120-Y		
Q313	8-729-212-02	TRANSISTOR	2SC2120-Y		
Q314	8-729-037-13	TRANSISTOR	KTA1271Y		
Q315	8-729-054-16	TRANSISTOR	KRC402-RTK		
Q317	8-729-043-89	TRANSISTOR	KTC3205Y		
Q319	8-729-040-76	TRANSISTOR	KTA1273-Y-AT		
Q320	8-729-054-16	TRANSISTOR	KRC402-RTK		
Q326	8-729-034-50	TRANSISTOR	KTA1504		
Q327	8-729-034-50	TRANSISTOR	KTA1504		
Q328	8-729-045-62	TRANSISTOR	2SK2158-T2B		
Q329	8-729-045-62	TRANSISTOR	2SK2158-T2B		
Q330	8-729-045-62	TRANSISTOR	2SK2158-T2B		
Q331	8-729-054-03	TRANSISTOR	KRA303-RTK		
Q332	8-729-054-03	TRANSISTOR	KRA303-RTK		
Q333	8-729-054-16	TRANSISTOR	KRC402-RTK		
Q334	8-729-037-03	TRANSISTOR	KTA1266GR-AT		
Q335	8-729-037-03	TRANSISTOR	KTA1266GR-AT		
Q336	8-729-037-03	TRANSISTOR	KTA1266GR-AT		
Q337	8-729-037-03	TRANSISTOR	KTA1266GR-AT		
Q338	8-729-054-16	TRANSISTOR	KRC402-RTK		
Q342	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q343	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q344	8-729-100-19	TRANSISTOR	2SC2001		
Q345	8-729-100-19	TRANSISTOR	2SC2001		
Q346	8-729-801-93	TRANSISTOR	2SD1387-3		
Q347	8-729-037-03	TRANSISTOR	KTA1266GR-AT		
Q348	8-729-036-58	TRANSISTOR	KRC102M-AT		
Q349	8-729-037-13	TRANSISTOR	KTA1271Y		
Q350		not supplied			
		< RESISTOR >			
R101	1-216-833-11	METAL CHIP	10K	5%	1/10W
R102	1-216-840-11	METAL CHIP	39K	5%	1/10W
R103	1-216-817-11	METAL CHIP	470	5%	1/10W
R104	1-216-806-11	METAL CHIP	56	5%	1/10W
R105	1-216-852-11	METAL CHIP	390K	5%	1/10W
R106	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R107	1-216-847-11	METAL CHIP	150K	5%	1/10W
R108	1-216-835-11	METAL CHIP	15K	5%	1/10W
R109	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R111	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R112	1-216-839-11	METAL CHIP	33K	5%	1/10W
R113	1-216-817-11	METAL CHIP	470	5%	1/10W
R114	1-216-818-11	METAL CHIP	560	5%	1/10W
R115	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R116	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R117	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R118	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R119	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R120	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R121	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R122	1-216-843-11	METAL CHIP	68K	5%	1/10W
R123	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R124	1-216-835-11	METAL CHIP	15K	5%	1/10W
R125	1-216-837-11	METAL CHIP	22K	5%	1/10W
R126	1-216-837-11	METAL CHIP	22K	5%	1/10W
R128	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R131	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R132	1-216-821-11	METAL CHIP	1K	5%	1/10W
R136	1-216-833-11	METAL CHIP	10K	5%	1/10W
R137	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R138	1-260-093-11	CARBON	330	5%	1/2W
R143	1-216-834-11	METAL CHIP	12K	5%	1/10W
R144	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R201	1-216-833-11	METAL CHIP	10K	5%	1/10W
R202	1-216-840-11	METAL CHIP	39K	5%	1/10W
R203	1-216-817-11	METAL CHIP	470	5%	1/10W
R204	1-216-806-11	METAL CHIP	56	5%	1/10W
R205	1-216-852-11	METAL CHIP	390K	5%	1/10W
R206	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R207	1-216-847-11	METAL CHIP	150K	5%	1/10W
R208	1-216-835-11	METAL CHIP	15K	5%	1/10W
R209	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R211	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R212	1-216-839-11	METAL CHIP	33K	5%	1/10W
R213	1-216-817-11	METAL CHIP	470	5%	1/10W
R214	1-216-818-11	METAL CHIP	560	5%	1/10W
R215	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R216	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R217	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R218	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R219	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R220	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R221	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R222	1-216-843-11	METAL CHIP	68K	5%	1/10W
R223	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R224	1-216-835-11	METAL CHIP	15K	5%	1/10W
R225	1-216-837-11	METAL CHIP	22K	5%	1/10W
R226	1-216-837-11	METAL CHIP	22K	5%	1/10W
R228	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R231	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R232	1-216-821-11	METAL CHIP	1K	5%	1/10W
R236	1-216-833-11	METAL CHIP	10K	5%	1/10W
R237	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R243	1-216-834-11	METAL CHIP	12K	5%	1/10W
R244	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R301	1-216-841-11	METAL CHIP	47K	5%	1/10W
R302	1-216-835-11	METAL CHIP	15K	5%	1/10W
R303	1-216-833-11	METAL CHIP	10K	5%	1/10W
R315	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R316		not supplied			
R317	1-216-841-11	METAL CHIP	47K	5%	1/10W
R318	1-216-817-11	METAL CHIP	470	5%	1/10W
R319	1-216-857-11	METAL CHIP	1M	5%	1/10W

Ref. No.	Part No.	Description			Remark
R320	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R321	1-216-845-11	METAL CHIP	100K	5%	1/10W
R322	1-216-816-11	METAL CHIP	390	5%	1/10W
R323	1-216-821-11	METAL CHIP	1K	5%	1/10W
R324	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R325	1-216-845-11	METAL CHIP	100K	5%	1/10W
R326	1-216-845-11	METAL CHIP	100K	5%	1/10W
R327	1-216-833-11	METAL CHIP	10K	5%	1/10W
R328	1-249-409-11	CARBON	220	5%	1/4W
R331	1-249-409-11	CARBON	220	5%	1/4W
R332	1-249-409-11	CARBON	220	5%	1/4W
R336	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R337	1-216-845-11	METAL CHIP	100K	5%	1/10W
R338	1-249-393-11	CARBON	10	5%	1/4W
R339	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R340	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R341	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R342	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R343	1-249-385-11	CARBON	2.2	5%	1/4W
R348	1-216-821-11	METAL CHIP	1K	5%	1/10W
R349	1-216-842-11	METAL CHIP	56K	5%	1/10W
R350	1-216-833-11	METAL CHIP	10K	5%	1/10W
R351	1-216-833-11	METAL CHIP	10K	5%	1/10W
R352	1-249-409-11	CARBON	220	5%	1/4W
⚠R353	1-215-857-71	METAL OXIDE	10	5%	1W
R358	1-216-842-11	METAL CHIP	56K	5%	1/10W
R359	1-260-095-11	CARBON	470	5%	1/2W
⚠R360	1-219-787-17	FUSIBLE	5.6	5%	1/4W
⚠R361	1-219-787-17	FUSIBLE	5.6	5%	1/4W
R362	1-216-836-11	METAL CHIP	18K	5%	1/10W
R363	1-216-836-11	METAL CHIP	18K	5%	1/10W
R364	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R365	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R366	1-216-837-11	METAL CHIP	22K	5%	1/10W
R367	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R368	1-216-833-11	METAL CHIP	10K	5%	1/10W
R370	1-216-833-11	METAL CHIP	10K	5%	1/10W
R371	1-216-833-11	METAL CHIP	10K	5%	1/10W
R372	1-247-807-31	CARBON	100	5%	1/4W
R373		not supplied			
R374		not supplied			
R387	1-216-833-11	METAL CHIP	10K	5%	1/10W
R388		not supplied			
R389	1-216-821-11	METAL CHIP	1K	5%	1/10W
R390	1-216-821-11	METAL CHIP	1K	5%	1/10W
R391	1-260-298-51	CARBON	3.3	5%	1/2W
R392	1-216-809-11	METAL CHIP	100	5%	1/10W
R393	1-249-393-11	CARBON	10	5%	1/4W
R394	1-216-833-11	METAL CHIP	10K	5%	1/10W
R395	1-216-845-11	METAL CHIP	100K	5%	1/10W
R396	1-216-837-11	METAL CHIP	22K	5%	1/10W
R397	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< TRANSFORMER >			
T301	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			

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Ref. No.	Part No.	Description			Remark
	A-1059-097-A	POWER BOARD, COMPLETE (KR)			
	A-4752-018-A	POWER BOARD, COMPLETE (SP, E51)			
	A-4752-042-A	POWER BOARD, COMPLETE (AUS)			
	1-861-721-11	POWER BOARD			
		**********			
		< CAPACITOR >			
C904	1-128-553-11	ELECT	220uF	20%	63V
C905	1-161-055-00	CERAMIC	0.022uF	10%	25V
C906	1-161-055-00	CERAMIC	0.022uF	10%	25V
C907	1-161-055-00	CERAMIC	0.022uF	10%	25V
C908	1-161-055-00	CERAMIC	0.022uF	10%	25V
C909	1-161-055-00	CERAMIC	0.022uF	10%	25V
C910	1-161-055-00	CERAMIC	0.022uF	10%	25V
C911	1-161-055-00	CERAMIC	0.022uF	10%	25V
C912	1-161-055-00	CERAMIC	0.022uF	10%	25V
C913	1-126-943-11	ELECT	2200uF	20%	25V
		< CONNECTOR >			
* CN901	1-793-660-11	PIN, CONNECTOR (PC BOARD) 3P			
* CN903	1-764-334-11	PLUG, CONNECTOR 11P			
		< DIODE >			
D905	8-719-200-02	DIODE 10E-2			
D906	8-719-991-33	DIODE 1SS133T-77			
D907	8-719-991-33	DIODE 1SS133T-77			
D908	8-719-991-33	DIODE 1SS133T-77			
D909	8-719-991-33	DIODE 1SS133T-77			
D910	8-719-991-33	DIODE 1SS133T-77			
D911	8-719-063-79	DIODE 1N4002B			
D912	8-719-063-79	DIODE 1N4002B			
D913	8-719-063-79	DIODE 1N4002B			
D914	8-719-063-79	DIODE 1N4002B			
D916	8-719-046-47	DIODE 1N5401TM			
D917	8-719-046-47	DIODE 1N5401TM			
D918	8-719-046-47	DIODE 1N5401TM			
D919	8-719-046-47	DIODE 1N5401TM			
D920	8-719-991-33	DIODE 1SS133T-77			
D921	8-719-991-33	DIODE 1SS133T-77			
D922	8-719-991-33	DIODE 1SS133T-77			
D923	8-719-991-33	DIODE 1SS133T-77			
		< FUSE >			
⚠F904	1-245-420-11	IC LINK	3A	60V	
		< LINE FILTER >			
⚠LF901	1-402-663-11	TRANSFORMER, LINE FILTER (LFT) (MX, SP, TW, AR, E51, AUS)			
		< RESISTOR >			
R901	1-249-437-11	CARBON	47K	5%	1/4W
R902	1-249-437-11	CARBON	47K	5%	1/4W
R903	1-259-882-11	CARBON	3.3M	5%	1/4W (AEP, UK)
R904	1-249-393-11	CARBON	10	5%	1/4W
R905	1-249-421-11	CARBON	2.2K	5%	1/4W
R906	1-249-421-11	CARBON	2.2K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

POWER

Ref. No.	Part No.	Description	Remark
		< RELAY >	
⚠ RY901	1-755-276-11	RELAY, POWER	
		< SWITCH >	
⚠ S901	1-571-309-11	SWITCH (VOLTAGE SELECTOR) (MX, SP, TW, AR, E51, AUS)	
		< TRANSFORMER >	
⚠ T901	1-443-410-11	TRANSFORMER, POWER (AEP, UK, KR)	
⚠ T901	1-443-412-11	TRANSFORMER, POWER (MX, SP, TW, AR, E51, AUS)	
**********			
		MISCELLANEOUS **********	
⚠ 5	1-696-848-12	CORD, POWER (AUS)	
⚠ 5	1-769-079-23	CORD, POWER (KR)	
⚠ 5	1-769-744-52	CORD, POWER (AEP, UK, MX, SP, E51)	
⚠ 5	1-783-940-73	CORD, POWER (AR)	
⚠ 5	1-827-597-41	CORD, POWER (TW)	
6	1-693-628-11	TUNER (FM/AM) (MX, SP, TW, AR, E51, AUS)	
6	1-693-629-11	TUNER (FM/AM) (AEP, UK, KR)	
52	1-757-791-11	WIRE (FLAT TYPE) (16 CORE)	
53	1-828-965-11	WIRE (FLAT TYPE) (11 CORE)	
55	1-773-220-11	WIRE (FLAT TYPE) (25 CORE)	
56	1-828-944-11	WIRE (FLAT TYPE) (7 CORE)	
110	1-796-352-41	DECK, MECHANICAL (CMAL5Z220A)	
163	1-827-992-11	WIRE (FLAT TYPE) (16 CORE)	
164	1-824-048-12	WIRE (FLAT TYPE) (27 CORE) (EXCEPT AR)	
167	8-820-221-01	DEVICE, OPTICAL PICK-UP (KSM-213EDP/C2NP)	
LF901	1-469-636-11	CORE, FERRITE (ESD-R-25SD) (AEP, UK, KR)	
M301	1-787-103-11	FAN, DC	
S101	1-771-853-11	SWITCH, DETECTION	
⚠ T902	1-443-273-11	TRANSFORMER, POWER (AEP, UK)	
⚠ T902	1-443-304-11	TRANSFORMER, POWER (MX, TW, SP, AR, E51, AUS)	
⚠ T902	1-443-364-11	TRANSFORMER, POWER (KR)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MEMO

REVISION HISTORY

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Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2004.06	New